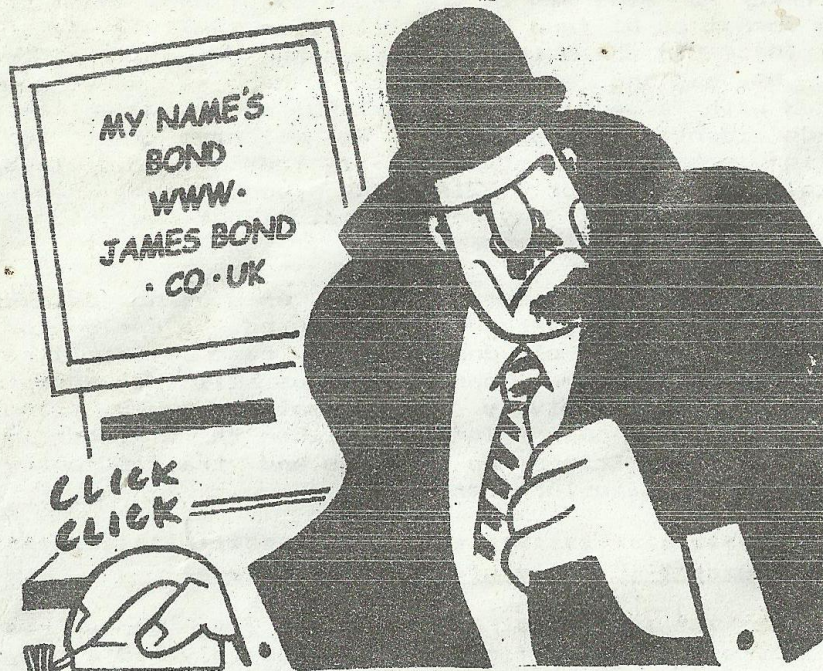


E.N.I.G.M.A.

EUROPEAN NUMBERS INFORMATION GATHERING &
MONITORING ASSOCIATION

Published JULY 1999 ISSUE 17

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ENIGMA QUESTIONNAIRE - RESULTS



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ENIGMA DESIGNATIONS

by M.G.

Recently there has been some confusion over our changing of E4 to E3A, which has involved various exchanges over the Internet. It is clear from what I've read that the purpose of the ENIGMA designators has been misunderstood.

The whole idea of using these reference numbers, rather than the earlier often vague and inadequate naming system, is to prevent confusion, by using an international system which can be understood by all. The present misunderstanding concerns precisely what these designators represent. They refer solely to the identification of formats - where different callsigns, voices or musical introductions are IGNORED. For example, it would be inappropriate to allocate designators for each of the voices used by S6, let alone all those used by G16 in the days of live announcers! Equally wrong would be classing every different musical introduction of V13 as a new variant. More ludicrous still would be taking account of M76's callsigns! A callsign is no different to a musical interval signature as far as all this is concerned.

Variants (distinguished by suffix letters) again relate to format only, and may differ slightly or considerably from the first format recorded - which may turn out not to be the "original". For all we know, this original could even have been abandoned many years ago, and thus missed ENIGMA's attention. Neither agency nor family play any part in this system. E.g. M10E/S10E could well be controlled by a different agency (and different country) than M7/M10/S5/S10D/S17 etc. If this is confirmed M10E & S10E will be allocated a new family number.

Until the slight changes made by what was E4, we had erroneously used two designators for Lincolnshire Poacher & Cherry Ripe. At that time we were confusing format with schedule, and the error was overlooked out of familiarity. We were wrong because the formats were identical, i.e they should both have been E3. Further distinction would then be made by referring, if relevant, to the Schedule Number, music, etc. In the case of E3, the easiest way to distinguish the two would have been to call one of them E3y and the other E3z. (This is what we've had to do with E17, of which more later). Now that "E4" has slightly changed its FORMAT, it has become a variant, and can be safely called E3A.

Those of you who are unfamiliar with Morse activity, or who live outside Europe (where the bulk of activity is concentrated) are less likely to see the logic behind ENIGMA reference numbers. The enormous amount of Morse activity in Europe has made this system the only workable one. As a rule, it is formats which ultimately identify the operating agency. Different voices can be compared to different Morse "fingerprints", and are not part of the format.

(Continued)

THE E17 DILEMMA

Rules tend to have their exceptions, but so far we've thankfully only identified one format which we suspect is shared by different agencies. This is E17 which, although using a female voice, has an identical format to E6. To further complicate matters, E17 itself is almost certainly operated by two agencies. One being the same as that controlling E6, and the other being 'pirated' and quite independent, and seemingly always using the ID (NOT a SN) of '274'. As all these formats are the same we can't call them E6C & E6D (E6A & E6B already exist), for they are not variants. "E17" arose out of similar confusion that gave rise to E4. It is wrongly designated as it is actually the E6 format. We've long realised this, but have bent the rules, so that it could be distinguished from "normal" E6, as its behaviour has been very different (more so than E3/E3A). We've now been forced to distinguish between the two E17s by giving them y & z suffixes. E6, E17y & E17z all use the same format, so really we should call them E6 E6y & E6z. E17z is not really part of family Ia, but belongs to the O group.

Another error we made was in the creation of M45, which shares the same format as M1 (and belongs to same family). It has a variant (M45A ?) where the first message group is a stutter group. M1 has no such variant. M45 is very closely associated with a single particular S21 schedule, unlike M1, and sends identical messages. So we have kept the M45 designation merely to distinguish it from M1 - perhaps we should call it M(S21) or M(S21A)! As you can see, naming is not as simple as it may appear at first sight. Any suggestions are very welcome.

I agree that this can cause confusion when using databases, but it can easily be overcome. Once used, a designator is NEVER re-used, and the old one (in this case E4) still refers to the newly-named format, and would thus still be understood. It's a pity that a relatively trivial matter should stimulate so much discussion on the Internet, when there is so little which covers such things as message and traffic analysis, schedule numbers, site location etc.

S28 - "The Buzzer" (Example of a recent message)

"UZB 76 UZB 76" (not read phonetically) 2fig number read as e.g "thirty-eight", 2nd 2fig number, (possibly 38 & 86, but not clear) "VOLJURA" (pronunciation emphasised) followed by four further 2fig numbers (?5 21 31 ?3 maybe). All this spoken at normal speed, then spoken slowly what seems to be the more important part of the message:-

"45144 Vassily Olga Leonid Juliet Ulyana Roman Anna 9541 3193"
As the figures use a form of modified Russian where several use identical vowel sounds and "oika/orka" endings, it is not easy to be certain of some of those given. The whole message is then repeated (including callsign), and the buzzing resumes. All messages follow same format - only codeword and figures differ.

STATION NEWS

NOTE: For newcomers who don't understand the logic behind the way the Station News is compiled, it is important to read the ENIGMA Booklet thoroughly. Also it is useful to read the previous Station News from the January Newsletter. Station News is not primarily intended to help monitors find stations - this would be impractical - but is mainly a record of any significant changes or new observations since January. In other words, it is news! We are no longer routinely listing SNs of certain stations as this serves little purpose, however, new SNs will be mentioned when appropriate. It is hardly news to report SNs for a station which constantly creates new ones as part of its normal behaviour.

Family Ia - Russia

M14 - The three M14A (dual message) schedules are still operating. The 71/72 group split is still common but other combinations are sent, the total GC always being around the 140-145 mark. This odd characteristic is shared by family Ib members, especially M12, many of whose schedules send single messages of 143 groups. This presumably around the maximum GC that fits in the time allowed for its (commonest) 20min repeat sequence. However, M14A doesn't send its repeats in this way - so why this need for such a restricted GC. Why also, split messages into two in every transmission of these schedules. Normal, more short-lived M14s continue as usual - some still sent extremely fast (40wpm).

E6 - Sending several longer than usual messages lately. A 245 group msg was sent on Mon & Tue 5/6th July, which on the Saturday was duplicated by S6 (SN 245) - the first time this has been noted. (The M45/S21 habit). This means that at least two agents, one Russian-speaking and one English-speaking, are using the same OTP/code books, to receive identical msgs. on different schedules. E6 regularly operates schedules seven days a week, but are usually quite short-lived.

E17y - Operates from Cuba, serving North America (Englishspeaking recipients), therefore, most transmissions occur during the early hours in Europe. Behaves as others in family, except E17z.

E17z - Probably Ukraine intelligence, (DF fixes indicate this) thus not strictly part of this family. Always seems to use ID `274' whatever schedule. Schedules are hardly followed with any consistency, though. After a spate of erratic 1500/1600 region transmissions on 8180 or 10240, the latest likely report was of this voice ending a 50 group message at 0605 on 6280. If you come across the E17 voice in Europe, it is likely to be E17z, especially if strong & during daylight hours. If the 274 call is missed, wait until the ending, when the DK & GC is repeated, for lately nearly all its messages have been of 50 groups.

G6 - Still operating its WEEKLY MON/TUE schedule - no others known - Summer 20/2100.

S6 - See also E6. Busiest voice station of Family Ia. Activity noted on all days except Friday throughout day. Two very unusual three group messages occurred in March on different schedules: 25.3 1600 12650 `304' & 29.3 1130 9145 `831'. The "d-va" voice now predominates.

V6 - no changes noted.

S25 - CEASED OPERATION? It appears that another one has `bitten the dust'! Having first dropped its intriguing A & B variants, then reduced its activity from daily to Mondays only, it's now dropped those also. Possibly its schedule has changed, if so, it would be the first time; more likely extinct. But Numbers Stations are renowned for their unpredictability, so it may pop up again some time.

Family Ib - Russia

M12 - Normal schedules come and go, often cyclic & returning at the expected time from their previous cycle in 1998. For details of special schedules 658 & 749, see article in this issue.

E7 - Most schedules change freq. & SN monthly. Most activity MON & WED, European early morning & evening. This schedule for April-July only (evenings only listed - 2100): -

April 9982-8189-75?? 915

May 12178-10774-9??? 177

June 13384-11424-103?? 343

July 12150-11490-104?? 144 (winter schedule UTC+1)

G7 - MON & SUN schedules - European evenings & early mornings.

S7 - Most activity on MON & TUE. Most active voice station in family Ib.

V7 - Becoming more active and messages sent more frequently (longest since Jan being 107 GC). Active on MON, TUE, THU, FRI. On 4th March a parallel of 11291 was noted with its normal March freq of 12202 - probably an error. SNs & freq change monthly.

Tue/Thu (mornings only listed - summer 0600, winter 0700) YEARLY cycle: -

Jan 9072-10472-11772 047 Jul 11461-12061-13361 403

Feb 10656-11556-13456 654 Aug 11166-12066-13366 103

Mar 11602-12202-13902 629 Sep 11542-12142-13442 514

Apr 11107-12207-13407 124 Oct 11487-13387-14487 434

May 10713-12213-13523 725 Nov 10233-12133-13533 215

Jun 11149-12149-13849 118 Dec 9052-10252-11452 024

XPH - Still busy on TUE & FRI 06/0700 20/2100

Family Ic - see Buzz page

Family II - USA - this section follows later

Family III

M3 - Many schedules but little traffic is this family's motto! What traffic there is, is very often identical to that sent on the same schedules exactly a year/2 years/3 years... ago - so what are they playing at? The weekly 503 schedule, like a few others, has never sent a message, yet carries on regardless. Unlike most others its frequencies are fixed - do not change seasonally. WEEKLY - MON 0800 10620, TUE 0800 10720. Why use two different freqs 100kHz apart? (a habit peculiar to 503 alone). 287 (another null msg schedule) is at present operating its longest stretch so far, and may not have gone by the time you read this: DAILY 1630 (at present on 7256 [yes!], but will soon move down - you'll have 5min to find it!) Special ID 121, follows no regular schedule, operates in 'flurries', and always sends new traffic, or at least it did until 0930 on 23rd March, when its very first null message was sent. Two days earlier on the same freq (5365) at 2000 it had sent a 36 group message. A recent 121 message of 54 groups, happens to be within M3's Typical GC range, but with 121 this is likely to be coincidence, as this is the only ID which does not conform to this rule. No M3As noted this time.

B11 - Only one schedule at present: WEEKLY TUE 1300 9950 (183)
although 187 & 231, active earlier in year, may still be so.

G11 - No reports for a while. If it's not present, it won't be the first time and is sure to re-emerge again.

S11A - Still only 1st WED of month `971'(at present on 5180), however, Special ID `121', normally used by M3 popped up with a Slavic message on 26th March on 5180. This is the second instance of Morse & voice sharing an ID - normal-scheduled `496' shares with G11.

Family VI - Germany - this section follows later

Family VII

M17 - No changes. Errors unknown in this family. easiest schedule to receive here is WEEKLY

WED 1900-20-40 on 34103910-4740kHz

E1 - No changes. Just two schedules per week.

Family IXa - Czech/Slovakia

M7 & M10 - M7 still behaving as normal. One popped up on 11002, yet another old OLX frequency - interesting to see that the Czechs are still making use of these freqs. M10 schedules operating at present are (listed by AN): 571+275alt532+049+ 435; 633+801; 968+417; 249alt619+071 ; 434; 853; 074+431; 127+ 801; 186+450; 127+801. For the first time, a DAILY regular schedule began May 1st and continued until 21st June, now reduced - sending different messages each time, to both 071 and (alternating) 249 & 619. Another oddity was a change in the very long-lived 571/275/049/435 schedule, where AN 275 began to alternate weekly with new AN 532, then for a while, back to normal, and now alternating again. This alternation of ANs was first noticed with S10D. M7 & M10 are a very busy network, and longer messages are becoming more frequent; it makes one wonder why the Czechs need to remain so active.

M10E - One schedule follows a strict 4 week cycle, commencing on THU and continuing DAILY, ending on TUE. Like S10E it always sends four msgs of 15-22 groups each, never openly repeated. Next cycles for these two will commence on 2nd & 30th September. Three other schedules operate, each sending a single msg of 20 groups, never openly repeated: MON/WED/FRI 1400, DAILY 1655, DAILY 2100 - April-Jul freqs are:-

	<u>1400</u>	<u>1655</u>	<u>2100</u>
April	9950	13066	9128
May	10323	13415	9930
June	10747	13326	107??
July	10672	12962	10840

S10E - Same transmission cycle as 28-day M10E and same number of messages, but fixed freq. 10642 at 1300. It is difficult to see why S10E doesn't adjust its freq. according to seasonal propagational needs - especially seeing that M10E does this.

The latter two variants are probably operated by a different agency to other members of Family IX - possibly Slovak intelligence, if so, they should be in their own family. However, it is incorrect to refer to S10E as the 'Slovak Man' as the language used is identical to S10D, S17 etc - Czech. Slovak numbers are virtually identical. As always, this family is difficult to disentangle. We mustn't forget that OLX (M6/S5 etc) was once the major Czech player.

Family IXc - Czech/Slovakia

M39 - Activity as erratic as usual and at similar levels. Reporting details would serve no useful purpose.

S17C - DAILY 1250 8190//6945 (Changed its 9385 parallel to 6945 on 29th April - perhaps just for the summer). A feature on this station is long overdue - perhaps next time!

Family X - Britain - this section follows later

E3 & E3A (formerly E4 - see Note on Station Naming in this issue)

Family XI

M4 & E23 - Both rigidly following same schedules as last given. Since its suspected move to Poland, signal strengths in Britain are much weaker than in the 'good old days' of Swedish Rhapsody. The change to E23 came some time after the move. See also note on "LOLO" in Letters pages - more evidence of a German-language origin. In the 60s this station is reported to have operated from the Swiss/French border area.

Family XII - this section follows later

Family XIII

M29 - MON/TUE 0805 (R 0835) (up to mid-June 0700 R0730,1300,1330) & DAILY 1700 (R 1900) - freqs change monthly, non-text messages weekly (Oct-Mar UTC+1):-

	<u>(0700)/0805</u>	<u>1700</u>
April (6550-6650)	6590-6490	
May (6770-6870)	6640-6540	
June (6660-6760)	(see G4)	
June 6480-6580	6530-6470 (note <u>not</u> 100kHz apart)	
July NF	6660-6510 (same as 1998)	

G4 - The long-established Sunday schedule now sends the same messages on THU at same times. Other schedules exist but seem to be short-lived. Normally, the Sunday message is changed with each calendar month, however, on 13th June a new message was sent (i.e. two in the same month), and on the next day the expected M29 at 0700-0730 on 6660 did not appear. We speak of these as "messages" but really they cannot possibly be in the form of normal text, due to their uniquely non-random structure. Sunday schedule freq. use 1996 to present:-

	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>
JAN	3227 L	3230-	3255=	3415+
FEB	3409+	3245+	3265+	3905+
MAR	3419+	3275+	4435+	4520+
APR	4581+	3936+	4745+	5310+
MAY	4165-	4245+	5410+	5570+
JUN	4340+	4376+	5730+	5720+
JUL	3935-	3930-	5840+H	5680-
AUG	4165+	3935+	5755-	
SEP	3930-	3915-	5310-	NOTE: Repeats sent
OCT	3260-	3315-	4685-	100kHz lower
NOV	3270-	3265-	3945-	
DEC	3285+	3255-	3380-	

Family XIV - Russia

M1 - The "A" network's deviation from the once Typical GC of 40, is becoming the norm - GCs of 40+ are virtually unknown nowadays, yet GCs as low as 30 are quite common. M1A/B (EoMs) continue as usual with their peculiar 2-way formats, but again sending normal messages on last Thursday in June - their holiday period?! "B" network schedules at present are: MON & WED 1718 5220 719, MON 2010 5815 729, THU 1505 6823 168, THU 2032 5737 931, FRI 2105 5325 871, Sat 1605 has been dropped. Others may exist. A unique M1C transmission (two-way split freq -like EoMs) was logged by Geo (Cumberland) on 14th July at 1045 on 9143, ending at 1123. This was unique for several reasons: until then, the highest recorded M1 frequency has been 7434. It also contained messages of more than the usual 10 groups - two messages - GCs 33 & 30. Our booklet entries will now need altering!

M45 - Now becoming well-established as SN `074' on 5974/5474. WEEKLY TUE & THU 1702. Excellent hand-keying.

S21 - Since March its `323' SN (3323/3823) changed to `455' (4455/4854) - this is the schedule whose messages are `mirrored' by M45. WEEKLY TUE & THU 1742. Other S21 schedules do not have M45 clones - no other M45s have ever been found.

Family XV

M13 - See Prediction Chart in this issue. As active and secretive as ever. 281 has "reappeared" after a long-imagined absence of many months, at a new time of 1300 (July 8078), yet its message serial

numbers indicate that it's been sending a new message every month. All Morse schedules change frequency monthly, and often these are difficult to find, as they can appear anywhere, and have a particular liking for hiding away in busy maritime bands! The special 590/261 schedules shares these two SNs, using 261 for short messages (around 23 groups) and 560 for long messages (typically 50-80 range). There seems to be no rational explanation for this - serial numbers take no account of the different SNs, continuing as normal.

E18 - A special transmission of the usual 307 SN occurred at an unscheduled time on SAT 5th June at 2100 on 8025kHz. Using message serial number 138 this sent a record 360 groups. Delivery is so slow that it took one hour 50min to send. The message was repeated same time/freq on SUN. (These days are not normally scheduled). The normal schedule followed as usual on WED 9th (R THU) with the next message number of 139, and another message of 79 groups. This ranks the agency behind this family as sender of the second longest message since ENIGMA began, (the longest being Family I's two massive 401 GCs). The "shared SN" habit mentioned above for M13 also clearly applies to voice members as 307 which normally sends "long" messages (over 40 GC) expected on WED 14th July at 2100 on 8025, appeared as 269 and only sent 22 groups (MSN 140). There was no repeat on the Thursday but a new message (MSN 141), this time 88 groups, and back with the usual 307 SN.

G22 - 2nd & 4th TUE (& WED?) of month 2300 6478kHz. Unlike M13, freqs. don't change monthly, but less often, perhaps only for Winter/Summer.

Family XVIII - Cuba (see feature in this issue)

M8 - More active than V2. Repeats are usually sent an hour later, as well as sending again on at least two other paired time-slots. Each time the last figure of the message's 5fig header is changed - 1,2,3.

V2/V2A - Most activity heard in Europe 0100-1100. V2A (fixed GCs of 150/150/150) is much more common than V2 nowadays.

Family XIX - France

M16 (8BY) Still follows usual hourly schedule daily at h+40, on four parallel freqs. as it has been doing for at least 15 years, sending addressee lists. How do these addressees receive their messages? Interestingly, in 1964 a different callsign was in use, but equally bogus; XE6 - Perhaps the Mexicans complained?

M51 - The busy European agent-running station is as inscrutable as always. With such a seemingly unpredictable schedule of seemingly endless 100 group consecutively numbered messages, the big question is how do the recipients know when and where to find the transmissions?

O M23

Schedules are coming and going yet 579 keeps on and on twice daily, and still hasn't sent a message in over two years! Somebody out there must be listening to it. Seasonal frequency changes are unknown with M23, and nearly all schedules are DAILY, nominally at least.

Another stable schedule is the uniquely-organised 7795, but no new messages have been sent for months; the same ones keep being sent over and over again - first sent in January. Not only does M23 have numerous variant formats, but it also seems to have many "modes of activity". Since January there have been an increasing number of (all-even or mixed 3fig SN) null message transmissions which never materialise into messages, but just cease transmission after variable numbers of daily sendings. Either these transmissions were never intended to send messages and merely act as status indicators, or recipients listen to them daily in readiness for a message. As well as 579, three others are running at present: 160 (1800 10475//?), 320 (2000 10015//?) & 222 (1700 11347//?). Only 579 has two daily time-slots, and this one may also be the only user of two parallel freqs.

As far as we are aware, there have been no "normal" M23 messages sent this year, despite frantic activity. This is not usual for M23, but nothing usual with this station? Why has time-keeping on the 7795kHz schedule become worse? Calls have been commencing at anywhere from 0912-0935, & similarly for the (nominally) 1500 transmissions (one began 17 minutes early!), yet the other schedules are never this bad.

0 M26/34

Occasional erratic operation as usual.

0 M40 (formerly M53)

Still operating same schedule (10620 at 2000/2100) but poor propagation to UK at present. Less traffic being sent, and messages now sometimes repeated on next day. Likely to move to 8231 or 6820 in the autumn. The ID (747) can be treated as a callsign as it has never changed for years.

0 M52/56

On 22nd February a new variant was operating: 13:875496 875496 875496:10:222 AR (2100-2200+4977). On the next day (same freq/time) it had become 08:179780 179780 179780:12:29:222 AR. The final triplet has never been logged before. A most interesting and detailed report was received from Germany on this very strange operation. This will form the basis of an article in the next issue.

0 M76 - see feature in this issue

Due to propagation and the reduced summer schedule frequency of 3280, this station is inaudible at present in UK. In the autumn it should begin to reappear on 3824kHz.

0 M78/XPL NEW DESIGNATION (see also XPL)

This new oddity started in February on 8100, and has recently moved to 8140. It began by operating WED-FRI on the hour between 0700 & 1400 or combinations of these. Now more erratic, but can be heard most weeks, often at several times daily and on various days. Transmissions were at first all 15min duration, but now they can also be 30min - changing mode or breaking for a short period at h+15. Three modes exist (so far): ICW Morse, standard 850/50 FSK or AM low-pitched Polytone (XPL). Only in a couple of early Morse transmissions was anything approaching intelligence sent: one sent repeatedly 4 5 5 8 8 9 9 0 0 5 pause, and the other ended a counting series with 11111 22222 1877786 = = = 8 00000 8 11111 8 77777 8 00000 (at 1015).

Usually the transmissions send merely idling signals, i.e. Counting repeatedly in auto-Morse: 11111 22222 33333...00000 (or a new variant: 12345 67890), RYs or 64s in Murray code or what appears to be a repeated 3fig number in a slow lowpitched Polytone. If they are merely testing, they are taking a long time over it. Perhaps the mode itself acts as a status indicator of some kind. Why bother changing the counting style otherwise?

M79 - NEW DESIGNATION

On Friday 5th March at 0800 on 5120kHz, the following was sent repeatedly for 5 minutes: ===== 06281 06281 ===== (using a short zero). Not heard since, this seems to be some kind of "control" type station. Any reports welcome.

0 MX

No great changes in the murky world of Single Letter Transmissions. Some time ago, the familiar chirpy "L" moved from its long-inhabited 3091 spot to an adventurous 3339kHz. All others behaving as always.

0 E10 - Israel - this section follows later

O E15 - Egypt - this section follows later

O V13 - Taiwan - this section follows later

O V15 - N.Korea - this section follows later

O X6 - Russia - this section follows later

Nothing to report except that these tuneless ditties are still very much with us, and as unpredictable as ever.

O XPL - (see also M78)

This low-pitch Polytone may or may not be connected with an identical-sounding signal which is associated with a distinctive hand-keyed 'piccolo-type' transmission which has been heard erratically over the past few years. In this present case, though, it is part of M78's repertoire.

Note - All stations listed in January's Newsletter, but not listed here, are either still active or presumed so, but no changes to report, mainly due to lack of monitoring.

Lanivet. Near Bodmin

We have received reports that the former BT point-to-point HF transmitting site in Cornwall has been taken over by Merlin. Has anyone any idea what service is being provided there, and of the nature of its transmissions?

NETWORK SYNARCHIQUE by Captain Way II

A Hermetic (no direct connection with "Hermes" DF loops as used by GCHQ etc!) political network involved in various covert projects: politically pro-Soviet, Easternist and Eurasian. Conducts Hermetic, occult scientific research over a wide range. People of a like mind, and with an interest in putting their knowledge of intelligence matters to work, please contact ENIGMA, (addressed to ENIGMA - N.S.) and your letters will be forwarded to the British Section organiser.

J 111 31/1 2/3 333 15/3 111 17/3 14/5 26/6 959

DZ - 111 28/1 24/2 23/3 20/4 23/5 21/6 723

PQ - 000

064 - 05397 65399 52765 87942 09863
56448 34153 54989 90697 23343
32666 76722 74892 05604 87118
16477 85691 00543 64326 74547
63822 09872 54362 16477 38502
23411 65739 70704 37343 66111
13266 90700 16940=33

633 - p136/27 1Aug-31Dec

718 - "TEMPUS OMNIA REVELAT"

849 - Use standard Vigenere, alpha shift-1, apply key phrase: "TEACH ME HOW TO NAVIGATE SAID ALICE", alpha shift+1 = plain text (109 words).... Hermes will lead the way!

M13 Prediction Chart 1999 Example

June					June				
DD	T	FR	ID	YN	DD	T	FR	ID	YN
T 1	2100	9825	272	✓ 22/20	Tu 15	2100	?	272	
W 2	2000	?	E18		W 16	2000	?	E18	
W 2	2100	?	272		W 16	2100	?	272	
W 2	2100	6835	254	✓ 187/20	W 16	2100	6835	254	✓ 187/20
Th 3	2000	?	E18		Th 17	1100	7877	?	Old
Th 3	2000	?	253		Th 17	2000	?	E18	
Th 3	2100	6835	254		Th 17	2000	?	253	
Th 3	2100	?	751		Th 17	2100	?	751	
F 4	2000	?	284		Th 17	2100	5175	134	Old
F 4	2000	?	253		F 18	2000	13256	253	✓ 180/23
Sa 5	19/20	?	261	590 ?	F 18	2000	8587	284	✓ 177/20
Sa 5	2000	5315	123	??					
Sa 5	2000	?	284		Sa 19	2000	8587	284	✓ 177/20
Sa 5	2030	?	411		Sa 19	19/20	? +10	261	590 ?
Su 6	19/20	12315	261	590 ? 213	Sa 19	2030	5918	411	✓ 202/23
Su 6	2000	5315	123	??					
Su 6	2030	5918	411	✓ 202/20			12325		
					Su 20	19/20	2+10	261	590 ? 213 / 19
					Su 20	2030	5918	411	✓ 202/23
M 7	19	10427	261	213/19	M 19	19	10427	261	✓ 213/19
M 7	19/20	11612	517	✓ 182/20	M 21	19/20	11612	517	✓ 182/20
M 7	2100	?	378		M 21	2100	?	378	
Tu 8	19/20	11611	517	✓ 182/20	Tu 22	19/20	11612	517	✓ 182/20
Tu 8	2300	?	622		Tu 22	2100	5782	346	✓ 175/21
W 9	13		281	192/	Tu 22	2300	?	622	
Th 10	15/17	9276	183		W 23	2100	5782	346	
Th 10	2000	?	714		W 23	13		281	192/
F 11	15/17	9276	183	✓ 177/21	Th 24	15/17	8276	183	
F 11	2000	12157	714	✓ 177/23	Th 24	2000	?	714	
Su 13	1900	8175	417	✓ 177/23	F 25	15/17	9276	183	✓ 177/21
M 14	1900	8175	417	✓ 177/23	F 25	2000	?	714	
M 14	2000	?	?A		Su 27	1900	8175	417	
					M 28	1900	8175	417	
					M 28	2000	?	?A	
Tu 15	2000	?	?A		Tu 29	2000	?	?A	

With thanks to Guy, Portsmouth

FAMILY II - CIA

E5 COUNTING STATION 3/2F ENGLISH Before we start our report on E5 we were sent a photo-copied page from an unknown book which referred to communications with agents in denied areas. The article about CIA training mentions the effective use of encoded radio transmissions to agents, which can be heard on ordinary home radios. Elaborate signals systems can be established to indicate safety, danger, discovery, loading and unloading a dead drop, request for meeting and postponement of meeting. Interestingly the document is dated May 1960 and the training centre is given as Camp Peary, Virginia.

We received several letters asking about E5 transmitter sites. During a recent visit to Barford St John, Oxfordshire we noted that three separate schedules (several of which were very strong in the UK) were not coming from this US controlled site. (See more details about this site in 'Buzz' section). However, we can confirm that some of the transmissions we hear in Europe are from a site at Langen near Frankfurt Airport, Germany. We have received two reports of visits to the site which are detailed below.

The first report - LANGEN "The transmitter site is located in a forest between Walldorf and Langen, south of Frankfurt - about 160 degrees from Frankfurt Airport (terminal 2). (Some earlier intelligence reports named the site as Egelsbach). I visited the site travelling by train to Walldorf, and then on foot to the location. The site is surrounded by a barbed wire fence, but at some points the barbed wire is missing, or rusty. There are signs "Danger-High Voltage" which presumably referred to the antenna rather than the fence. I counted 9 horizontal log-periodic antenna (2 different types pointing in all major directions), 4 rotatable vertical log-periodics (at the time of my visit, 2 were directed east and 2 to the south), 2 microwave links, and 2 vertical rhombics (one omnidirectional). The antenna had no aircraft warning lights. I walked the whole perimeter to check what was there. During my visit there were just two cars on the site. The antenna feeders lines are subterranean and ventilation exhausts are visible, possibly for air cooled transmitters. The pathway I walked was not secret in nature and was for use by pedestrians and cyclists through the forest. On Monday morning between 08.15 -09.30 CET I noted five people passing the site by cycle. And I also noted one car from the "Forest Authority".

Later I had a look from the "Henninger Tower" (named after and built by a local brewer) in the south of Frankfurt. I could not see the site, but must admit that I had no field glasses with me, or a detailed map. Also, the conditions were not perfect for viewing. By coincidence, the person selling the tickets was an American! (He listened to AFN)."

Our second report is broadly in line with the first - additional comments are as follows. The signs on the road read "PRIVATWEG (Private Road) and "WASSERSCHUTZGEBIET" (Water sanctuary - nature reserve). The gate itself shows no address of any kind, just an electronic keypad-entry system showing the word "cypher" an intercom system and a steerable camera watching in and outgoing traffic. A couple of small buildings were on the site but I believe there are some subterranean infrastructure as well, as I saw and heard 3 huge ventilation exhausts coming from the ground. Only two cars (Renault 19 and Opel Corsa) with German number plates were inside the premises, no persons could be seen. A sign that read something like - "DURCHFART GESPERRT - US MILITÄRFAHRZEUGE FREI" (US Military Vehicles Only) was noted. Transmissions that were heard coming from the site were the 09.00 UTC transmissions on 11580/14448/14655/15822 and 20.00 UTC 10423/10527/12198 plus several 10 minute PSK transmissions at irregular intervals." Our thanks to our two contributors for this information.

Traffic levels have remained high during the last period with many schedules changing at the end of March. One schedule is heard well in the U.S.A. and Canada - MON-FRI at 00.00 on 4640//5046 and may be a training transmission. A transmission was also noted on SAT at 01.00 11491//14221 with a 235 group message, which cut off abruptly at 01.50 without an ending. The present maximum group count for normal traffic is 215 down from the previous 225 groups. Another unusual combination was heard on SAT at 18.00 operating on 5315//4445 kHz. These are very low frequencies for E5 in Europe which normally does not venture below about 5.8 MHz.

Some other unusual transmissions have also been noted in the afternoon period in Europe, however,

these have not restricted themselves just to this part of the world. A report from Japan has noted similar strange transmissions as those heard in Europe. Our monitor writes, "The E5 Counting Station started at 08.00 in powerful AM (AM compatible/reduced carrier USB mode), suddenly at 08.16 the carrier went off air. At 08.19 numbers started in full carrier AM until 08.24. At 08.26 in pure USB mode until 08.30. Then at 08.31 in AM until 08.37, at 08.40 in AM until 08.44. Finally at 08.45 into USB until 08.50. This transmission was noted on SUN on 18185//17641." These 'tests' would almost certainly be old tapes or random generated numbers used in order to check in a target area, perhaps received at an embassy - with the readability results fed back to the control centre.

V5 COUNTING STATION 3/2F SPANISH - Continues to be heard well in the U.S.A. but less so in Europe. All transmissions reported are operating between 01.00 and 04.00. (Incomplete).

01.00	MON	WED	FRI	13452//15650
02.00			THU	14421//11491
03.00	MON TUE		THU FRI SAT	10665//11491 & 12300//14421
04.00	MON			6802 // 11491

FAMILY VI - BND

E16 - 2 LETTER - ENGLISH - The only report we have is of Alpha Uniform (AU) which made one of its periodic appearances on 4821//4888. No other E16 are reported to be active at present.

G16 - 2 LETTER - GERMAN - The German language version G16 is still holding on by a thread with only Golf Kilo (GK) and Whisky Lima (WL) carrying the flag for the BND. GK is the most active and is operating on WED at 20.00 & 21.00, FRI 19.00 & 22.30, SAT 01.30, & SUN 20.30 - frequencies change depending on time of year (see full list in Booklet Part 2). Traffic for GK is sent to ANs 316, 477 & 571. WL is heard well in the U.S.A. on SAT & SUN 04.00 with traffic for AN 522. Messages are often 'carried over'. On the whole, either traffic in general is down from the last period or we have received fewer reports.

FAMILY X - MI6

E3 'LINCOLNSHIRE POACHER' - According to a report on Glen Hauser's SW/DX programme, WWCR (Worldwide Christian Radio, USA) are relaying programmes from Persian (Farsi) Radio International (a pro-communist outfit outlawed in Iran) at 13.00 on 15685 kHz. This should give the Iranian jammers which attack LP on 15682 kHz two targets for the price of one - good choice of frequency - not.

Some feedback has been received concerning the use of the site at Abis, Egypt to transmit E3. The mystery is however not solved! We have been in contact with Rumen Pankov in Bulgaria who is a respected expert on clandestine broadcasts. He states that Voice of Human Rights and Freedom for Iran was transmitted from Egypt and also possibly from Israel. The station used the frequencies 15683 and 16085 kHz, and the station was jammed by Iran (around 12-14.00 UTC). He did not however state why he thought E3 was coming from Egypt. Can anyone remember having heard VoHRF interfere with E3?

Meanwhile, Scott Ritter (a former US Arms Inspector), writing in his new book, Endgame, says that in the mid-1990s MI6 pushed the CIA to shift its support from the Iraqi National Congress (INC), which was recruiting an army in Kurdish-held northern Iraq, to the rival Iraqi National Accord (INA), which was based in Jordan. Mr Ritter describes the INA as a "creation of the British MI6" and says it consists of "former military personnel who had defected from Iraq and who were hoping to take advantage of their old contacts at home". The book records the INA's failed attempt to get members of the Republican Guards to stage a coup - a plot that was foiled in June 1996 when the Iraqis intercepted CIA-supplied communications equipment.

No changes to the schedule published on page 68 of Issue 16. Transmissions (and jammers) continue as normal. Traffic increased in February - which was the most active period for some years.

E3A) (formerly E4) 'CHERRY RIPE' - No major changes. One report indicated that a faint transmission had been noted on MON April 19th at 13.00 on 13199.9 kHz, this is a previously unknown frequency for this station, so may be worth checking out in future.

Schedule at present is still MON-FRI only.

00.00	17499//22108	10.00	20474//23461	19.00	17499//22108
01.00	19884//21866	11.00	17499//23461	22.00	15624//17499
		12.00	17499//23461	23.00	17499//22108
		13.00	17499//22108		

FAMILY XII 6647 & 11292 kHz

E9 MAGNETIC FIELDS - No reports received - possibly inactive at present.

V8 EASTERN MUSIC STATION - The transmissions continue along with the usual collection of false starts, breaks in transmission, low modulation and strong carrier. The regular slot is 6645 kHz at 19.00 in Winter and 18.00 in Summer. The first SAT of the month is the only known schedule with a variation in May when the station appeared on the second SAT of the month (May 8th). The use of the second SAT also occurred in AUG 1998. Worth checking if you do not hear the station on the first SAT.

Some time ago there was an airing of the transmission on the first FRI of the month at 08.20 or 09.20 on 11290 kHz. Is this still the case? Possibly due to the operator completely mangling the old musical introduction (!) a new one was introduced for the April broadcast. Christian (Germany) tells us that he made a recording of the music and as a copy in his archive - both the Arabic release as used on air and also the European release. More details to follow.

STATION NEWS - OTHERS (O)

The following stations would appear to be individuals, and show no sign of 'family' relationships.

O - E10 PHONETIC ALPHABET - NAI

are on frequency usage by this vast network of stations. If you have any new active frequencies or callsigns we have not covered please let us know. An interesting report appeared in 'Communication' the journal of the British DX Club. Galei Zahal (Israel Defence Forces Radio) has been noted on 6442 kHz around 00.30. The last time this station was noted on SW was in the summer of 1995 when it was heard on 8127 kHz. It later transpired that this was caused by cross-modulation on the transmission of E10 station CIO which ran an open carrier on the frequency. According to the report, Galei Zahal replied to reports but did not verify them. (Hans Johnson/Cumbre DX).

Several new frequencies have been noted since the last period. TMS was noted on new 4015 kHz. ZWL was heard on June 9th at exactly 5 MHz, a most peculiar choice. ZWL sent nothing other than the callsign continuously and was monitored between 19.30 and 21.00. It is also reported to be active on 14000 kHz mixing with transmissions from E15. The usual collection of message strings have also been present.

MIW	D023Z80	KPA	22R58B23S1445	CIO	33F46P14L1388
MIW	DQCZ801200			HNC	S
MIW	A44B77	VLBCZ		HNC	1
MIW	55	VLB54B26F26T5812		HNC	9
MIW	KED145LG	VLB16R54B28D1399		HNC	N

O - E15 PHONETIC ALPHABET - PRE NATO Revelations in the last issue that this station was transmitted from Egypt are now confirmed, Costas (Greece) sent us a copy of the following - RegTP Konstanz (German Telecoms.) the "input"-office for the German Intruder Watch, have reported to DARC Monitoring System Intruder Watch that they have pin-pointed the net starting at 14.00 and

17.00 UTC on 14000 kHz with the spoken announcements in SSB -USB "Frank Young Peter" followed by spelling scrambled messages: The station is located in the Cairo vicinity. RegTP Konstanz have informed their headquarters in Mainz to launch an International Complaint against this offender".

The official complaint seems to have gone in the bin! Egypt is not for moving. The station is still using 14000 MHz at 14.00 although the signal in the U.K. is very poor but reported by a reader who recently visited Greece "as very strong".

Present schedule is as follows - (please note start times can vary somewhat and sometimes the station just does not appear).

11.00	BEC	18000	17.00	FYP	14000
12.00	USP	17503	17.30	OSS	5834
12.30	MSA	11170	18.00	USP	5834
13.00	BEC	11000	19.00	SAR	4130
14.00	FYP	14000	20.00	NAS	5530
16.30	MSA	6716	21.00	OSS	4130

O - V13 NEW STAR BROADCASTING The station is active on 8300 9725 11430 13750 and 15388. In Europe the signal can sometimes be heard in the afternoon period on 8300, transmissions commence on the hour and at +30, the signal is also occasionally noted at 22.00 and 23.00 also on 8300. Our monitor Takashi (Japan) played a tape recording of the station to a herb doctor, a native Chinese, living in Nagasaki. He commented "the station is using pure Mandarin. (Not Cantonese) It is difficult to distinguish between transmitting site, Taiwan or Mainland China. Female announcer is speaking Mandarin fluently, no accent heard." The strongest frequency in Japan is 13750 which is heard with a distinctive hum on the carrier.

O - V15 NORTH KOREAN - VIA RADIO PYONGYANG See further information concerning this station in "Simon Mason Writes" column in this issue. Numbers can be heard in Japan on MW 621 (Chongjin 500 kW), 657 (Kangnam 1500 kW), 702 (Chongjin 50 kW), 721 (Wilwon 500 kW), 855 kHz (Sangwon 500 kW). On SW active frequencies are 3250 4770 5715 5873 6215 6400 (Pyongyang between 50 and 500 kW). In Europe some of these may be heard in the afternoon/mid to late - evening period. We have also noted numbers on 9335 at 16.30 ending at 16.46 with a fair signal. Some number transmissions have recently been noted commencing with Korean pop songs! Ending with "Thank you" in Korean.

O - V9 CHINESE A popular frequency for this station is 10750 kHz which has been reported from Japan and Australia. The parallel has now been located on 6985 kHz with transmissions at 16.00 and 17.30 UTC, but not daily. Translations indicate the following announcement: "All stations, this is Gangzhou. We are waiting for your messages", ending with "Thanks" in Mandarin. If the announcements are a true indication of location then the station is transmitting from Gangzhou, China. See comments re- V22 below.

O - V16 CHINESE - A possible V16 was reported by Alan (Cambodia) - Female voice in Chinese noted on 13680 (mixing with Merlin Network One) - 15.02 - 15.05 repeating (translated) 'All receiving stations, there are no reports at present. Transmission cancelled' ended, 'Please stop listening, goodbye'.

O - V22 CHINESE This station is active on 6464 and 8375 kHz but the transmission times are different. Translation of the announcements are "All centre stations, this is Beijing calling" sent for 5 minutes at opening. Ends with "Thanks". Language is Mandarin. If the announcements are a true indication of location then the station is transmitted from mainland China. Curiously, the signals are affected by jamming from an unknown source. 6464 kHz commences at 17.00 UTC (East Asian Midnight and are not daily, 8375 kHz operates daily other than Sunday, and commences at 11.29 UTC with messages at 30 minute intervals until close at 16.15.

An unidentified station possibly in Chinese was noted at 13.38 on Feb 6th on 3420 kHz repeating a short message.

O - X6 THE 6 TONE REPEATING These signals continue on showing no responses to 'current affairs', despite suggestions that almost all the X6 transmissions end without a message. Often up to 3 'airings' of the same tone sequence will be detected within a one hour period. We have passed a copy of the comments made in the last issue to one of our contacts and hope to have more on this later.

OTHER ITEMS (ENIGMA REF note yet allocated) - We have had several reports concerning a Female reading numbers on 2136 kHz at 07.00 SAT/SUN for 5 minute periods and also on MW at 1122 kHz during the daytime at H+10-12 and H+40-42. The language is reported to be Czech. Consecutive number groups such as 50-59 have been noted. Indications are that the signal originates from Hradesin, 12 km East/South East of Prague. Our source comments "God knows what station this is".

Meanwhile, in Japan several CW stations using tactical callsigns such as 6PXJ, U7AF, L9CC etc are occasionally heard. These are believed to be Chinese Navy among utility monitors in Japan. Our monitor asks if these are some form of numbers transmission - see similar comments re- 4XZ - Israeli Navy (?) in our E10 feature this issue.

Acknowledgments - Thanks as always to all our readers for your letters, e-mails, logs news and information. We would also like to acknowledge The World Utility News (WUN), US based "Spooks Group" and their contributors.

M12 Special Schedules 658 & 749 - and their recent relatives

by M.G.

Unlike all other M12 schedules, which are cyclic or fixed term, this station also runs two permanent schedules, using SNs 658 & 749. These appear to be sending general messages to a large number of recipients spread over the whole of Europe and probably further afield. As well as being linked to one another, they sometimes share their message traffic with "subschedules", which at present are numbered 135, 257 & 963.

This article is only concerned with the period, January to July of this year. Until mid February, no subsidiary schedules seemed to be operating. 135 appeared on 17th Feb, 257 on 23rd March and 963 on 10th May. They have all continued ever since. 135 & 963 were operating last year, but not as part of the 658/749 schedules, however, they were sometimes sharing messages between themselves, so they probably relate to the same mission/purpose.

Present times & freqs are as follows (ALL WEEKLY):-

Primary Schedules (Permanent)

658 - WED(C) SAT(X) W2100/S2000 6934 (* see below)
FRI(Y) S1700 9436 (only noted 21.5)

749 - WED W0730/S0630 6782
DAILY W1700/S1600 6782
SUN, THU, FRI, SAT - all always null
MON - msg A
TUE - msg B
WED (both) - msg C

(Some other freqs & time-slots were in use previously, e.g. TUE 1430 14922: 749; TUE 658 slots etc. Also 3fig DKs and low GCs were common - once as low as 35).

Subsidiary Schedules

135 - MON(A) WED(C): W1900 4792/S1800 6782

257 - WED(C): W1900/S2000 9040

963 - MON(A) WED(C) THU (indep.): S1650 13543 (Winter not yet known)

Frequency Triplets

135: 6782-7657-8173
257: 9040-?-?
658: 6934*-5888-?
749: 6782-7657-8173
963: 13543-?-14874

* Recently 6915 has been used -
an error maybe?

All messages use a standard 20min repeat sequence, which limits their maximum length to around 155 groups.

Messages

In a typical week, four messages are sent, changed weekly, which I have called A,B,C & X. See above for scheduling arrangements of these messages. Messages, A, B & C are all shared in various ways, and all associated with 749. 658 is only associated with shared message C. Message X is unique to 658's Saturday transmission and never shared. Message Y was only noted once, on a non-standard 658 schedule.

The vast majority of messages sent over this period have been recorded (91 out of a theoretical "shared" 117, assuming four per week). From these logs we can see that the subsidiary SNs have repeated primary messages (A,B & C) each time, with only one exception. This, added to the 91 above, was on Wed 26th May, when 135 went its own way and sent a split message format, using 3fig DKs, and whose total GC added up 141 (within the normal range), i.e. 283/57, 144/51. On the same day, 257 mirrored 749's traffic as usual. This proves that, rarely, these sub-schedules operate independently when necessary.

SN 963 has its own weekly independent schedule every Thursday, which never follows 658 or 749 traffic. 963's use of higher frequencies would indicate that it is relaying the A & C messages to a target area outside Europe. Of all these SNs, only 749 operates daily, however, for the same four days each week, all it has ever sent so far, are null message indicators. Clearly, on these days, there is always the potential for a message being sent.

The "new-message-each-week" rule was broken on 27th Feb when an "X" message sent on the same schedule two weeks earlier (on 13.2) was repeated. What can we glean from this? Very little, apart from the fact that regular log-keeping, and careful analysis can unearth some interesting surprises!

An analysis of GCs proves interesting too. Out of these 92 messages logged, only 11 have GCs outside the usual M12 range of 138-149. None were higher, and the distribution of these is non-random: 107 107 108...131 132 132 132 135 135 135 135. Note the wide gap between the lowest three and the rest. The statistical probability of that 107/107/108 cluster, well-spaced in time, arising by chance is virtually nil. M12 very rarely uses DKs commencing with a zero, yet there are two to be found here, both linked with rare 132 group messages: 658/0744/132 (19.6) and 963-0155/132 (1.7). In the past, when 658 & 749 used widely varying GCs, the shorter messages (below 100 groups) tended to use 3fig DKs, and the longer ones 4fig DKs. This rule is still borne out by that split message mentioned earlier.

E10 - MORE REVELATIONS!

► **BACKGROUND** It is some time since we last looked at E10, and we are now able to present new information not available when the station was last featured in Issues 12 & 13. This time round we are going to look at frequency and callsign usage and bring you up to date with the latest location news. Before we commence our analysis it is important that we briefly recap on a couple of points made previously.

You may recall that we split the E10 stations into three very distinct groups -

- 1) High - traffic Stations; ART EZI FTJ JSR *KPA PCD *SYN ULX *VLB & YHF
- 2) Low - traffic Stations ; CIO MIW
- 3) Non - traffic Stations ; BAY GBZ HNC OEM NDP ROV TMS ZWL

► **SCHEDULING** The overall scheduling patterns of High - traffic Stations are very stable and using the table below you should have no difficulty in finding transmissions. In general the traffic stations operate 24 hours per day (FTJ is off-air 01.00-03.00 UTC and EZI & JSR are off-air 22.30-01.00 UTC), but are best heard in Europe between 17.00 and 02.00 UTC.

Transmission for the calls listed below commence on the hour & half-hour.

<u>ART</u>	<u>EZI</u>	<u>FTJ</u>	<u>JSR</u>	<u>PCD</u>	<u>ULX</u>	<u>YHF</u>
3150	6840	2628	2270	3150	2743	2844
3417	9131	4463	5091	4270	4860	3840
5437	11565	7322	7540	6500	6270	4560
6986	13533				7760	5820
	15980					7918
	17410					9402
	19715					10648
	20474					

*Now you may be wondering why KPA SYN and VLB are not included above but are shown on the list. The reason for this is due to frequency usage. We can now reveal that all the stations listed above operate only on a frequency allocated for that particular call. The frequencies are not interchangeable with each other or any other callsign in the network. The story is however very different for CIO KPA MIW SYN & VLB. These calls operate on interchangeable frequencies drawn from a pool. The difference may suggest that the recipients of stations using fixed frequencies are in stable positions while those receiving messages from stations in the pool are more mobile.

High traffic stations carry the bulk of all messages. Low traffic stations CIO and MIW are in the main confined to sending the status indicators e.g. CIO2 - no message. Occasionally traffic is sent and it is not unusual for CIO and MIW to have 'bursts' of activity concentrated into several days only to return to the '2' idler. Message strings such as CIO17D45D47D56T1 are much rarer for these calls.

Stations drawing from the frequency pool are listed below.
Transmission start times are shown below at minutes past the hour.

	<u>+45</u> <u>CIO</u>	<u>+15</u> <u>KPA</u>	<u>+15</u> <u>MIW</u>	<u>+45</u> <u>SYN</u>	<u>+45</u> <u>VLB</u>	<u>GPO</u>
2120	+	+	+			
2515		+	+		+	
2540					+	
2953		+	+	+	+	
3090	+			+		
3270	+	+	+			
3485			+	+		
3640	+		+	+	+	
4165		+	+	+	+	
4360	+		+	+		
4665	+	+	+	+	+	
4780		+	+		+	
5170	+				+	
5230	+	+	+	+	+	
5530			+		+	
5629	+	+	+	+	+	
6370		+	+	+	+	
6658	+	+	+	+	+	
6745	+	+	+	+	+	
7445	+	+	+	+	+	
7605	+	+	+	+	+	
7613						+
7811	+			+		
8025	+					
8127	+	+	+	+	+	
8465	+	+		+		
8641	+	+	+	+	+	
9270				+		
10125	+					
10352	+	+		+	+	
10820	+			+	+	
10970			+			
12747	+		+	+	+	
12950	+	+	+			
13190	+		+			
13921	+				+	
14000				+		
14750	+		+		+	
15016			+	+	+	
17170	+			+	+	
17966			+	+	+	

As we would expect there are some anomalies! For example CIO is the only call to use 10125. While exclusive to MIW is 10970 and VLB 2540. 5530 and 14000 are two unusual choices, both are used on a regular basis by (E15) the pre- NATO

Phonetic Alphabet station which transmits from Egypt. Meanwhile, 5530 has been used at 20.15 UTC and collided on occasions with E15's - NAS messages. 14000 has been heard recently with call ZWL mixing with E15's FYP transmissions, some years ago SYN had a brief flirtation with the frequency. Why when so many frequencies could be used do these two operators collide? Could E10 be causing deliberate interference?

Non - traffic Stations are even more incomprehensible. BAY GBZ HNC OEM NDP ROV TMS & ZWL do not send messages. These calls are restricted to sending only status indicators (conveying minimal information) such as ZWL-3, ZWLC-3 or TMS-22 for example.

These calls do not have fixed start or end times.

BAY	GBZ	HNC	OEM	NDP	ROV	TMS	ZWL	
5530	5170	6575	5339	6658	4604	4015	3940	It is probable that each call has at least two 14000 frequencies.
			6911		6438	5339	5000	
						6911	5715	

Again more anomalies! HNC ROV & ZWL have exclusive frequencies while BAY shares with MIW and VLB. GBZ shares with CIO and KPA and NDP shares with CIO MIW SYN and VLB. Meanwhile OEM & TMS share 5339 and 6911. One point we must stress is that no Low - traffic Stations or Non - traffic Stations share a frequency used by the High - traffic Stations which have absolutely unique frequencies.

► CALLSIGN CONSTRUCTION This is an unexplored area until now, so feedback would be appreciated. Have you ever considered why the call is ART? What is the significance of these letters in that particular order? We can however confirm the results of our analysis. The callsigns are in fact very carefully constructed to avoid duplication of a letter in its same position in a different call. For example;

ART - A (position 1), R (position 2), T (position 3), do not occur in any other calls in the same position. The only exceptions to this rule are - CIO & MIW, The letter I appears in both calls in position 2, the same is true of VLB & ULX with the letter L appearing again in position 2 in each call. Quite what all this means is open to debate. One possibility is that the callsigns are designed in such a way that if you only hear 2 Letters in a sequence e.g. AR or RT it can only be one station no matter what! So far calls starting with D, I, L, Q, W & X remain un-allocated so we would expect any new calls to be drawn from this list.

► STATION LOCATION/AGENCY The first public disclosure that E10 stations were located in Israel emerged in the July 1984 issue of Popular Communications and was repeated in the book Guide to Embassy & Espionage Stations written by Tom Kneitel. At ENIGMA we have questioned whether all the transmission emerge from one country this is due to the unusual signal strengths noted at considerable distances. According to directional fixes taken in July 1995 on 6 different frequencies transmitting various calls, all signals were coming from three locations: one near Tel Aviv, one near Eilat and the third from a location 50 km NW of Tel

Aviv in the Mediterranean. This spot is about the place where the high-tech offshore pirate station Arutz Sheva is anchored. Ever since Arutz Sheva started (21.10.1988) everyone wondered where the money came from. They had very advanced equipment when they started but no advertisers (just like RINII). Maybe, just maybe, this station is a cover for Mossad. It is equipped with mediumwave, HF and VHF transmitters and antennas, and the ship is supplied on a daily basis. If you have followed the offshore pirates in the North Sea, you will know that it is a miracle when an offshore station runs so smoothly, and that for almost 11 years!

Further proof that the transmissions come from Israel was a malfunctioning transmitter at a site near Tel Aviv. A problem was first noted during the second week of June 1995. During that period you could hear something that sounded like the ringing of a telephone and on top of that a sort of clicking sound. When the telephone sound disappeared, you could hear all the E10 transmissions that were on the air at that particular moment, all at the same time. On 10125 kHz, this whole thing sounded even stranger as there is a station in Moscow 1kHz away that produces a constant 'white noise' which is some type of high-tech digital mode.

E10 transmissions on 8127 kHz have also had technical problems with Israel Defence Forces Radio (Galei Zahal) heard on the carrier. At first it was thought that the mixing signal was that of KOL Israel but it appears to have been Galei Zahal's traffic information service which carries mostly music and id's as "Kol Ha-Galgalatz" ("Voice of Galgalatz"). News summaries are sometimes carried on the half hour with some news bulletins relayed from Kol Israel's Network B on the hour. During the Galei Zahal broadcasts the same situation occurred on 10125 kHz. Several RTTY stations which transmit from the same site as Galei Zahal have also been noted on the carrier of the E10 transmissions. In September 1998 we received the results of a further set of fixes taken over a broad selection of frequencies at different times around the clock. The results indicate that all transmissions are now emanating from one site at Tel Aviv.

► '4XZ' PART OF THE FAMILY? - 4XZ is the callsign used by the Israeli Navy (we would be interested to know just how many vessels they actually have?) This is a very busy Morse network which sends traffic in 5 Figure or 5 Letter groups. It uses a very wide spread of frequencies and we would question if this net is not simply another part of the Mossad communications system. More details in station news.

► YOUR HELP REQUIRED In collating this feature we have reviewed much historical data from our archives and other sources including Spooks Net, Monitoring Times, WUN, and other reference material dating back to 1985, clearly some error may have crept in, particularly concerning callsigns and frequencies. Traffic has been noted on a number of frequencies which are now no longer in use. Rather than revisit these now we would appreciate any details of active frequencies not given. 15016 was discontinued following complaints of interference to the USAF on 15015.

► ACKNOWLEDGEMENTS Our thanks to all our readers for logs and observations. Special thanks to 'A' & 'V', Brian, Takashi, & Jonathan for your contributions.

LOCATING NUMBER STATIONS

► INTRODUCTION - On the following pages you will find a detailed list of Number Station locations. This list is probably the most comprehensive ever published 'for public consumption'. ENIGMA exists to learn and disseminate information on all aspects of the Number Station subject, and the locating of stations is an important part in this process. The information presented is based on exhaustive research conducted over many years and represents our opinion at the time of publication.

► EARLY EFFORTS - With absolutely no public information on the locations or agencies responsible for sending Number Station messages we have built up a vast amount of information. It is only in recent years that more cracks have begun to appear in the 'brick wall' which surrounds the subject. Early opinion about the origins of stations was largely based on speculation and hearsay, with a reasonable degree of misinformation thrown in for good measure. Some progress was made in the United States, but in Europe it was left to the rather shy and unreliable "Langley Pierce" in his book *Intercepting Numbers Stations* to take a stab at the European operators.

► WORKING WITH NOTHING - At ENIGMA we have made great progress in untangling the many different Morse and Voice stations despite the use of bogus call signs (or no call sign at all), coupled with the fact that a station speaking a particular language is of course no guarantee whatsoever of the operating agency or location. It is with acknowledgements to our dedicated readership, trusted contacts and exchange clubs that we have made progress only dreamed of a few years ago, but there is still much more to do.

► LOCATIONS AND AGENCIES - There is no doubt that those involved in the transmissions are well aware of each other's operations and locations. Clearly however some countries have much greater eavesdropping facilities than others. It is also equally clear that Number Stations do not want 'additional' listeners and go to great lengths to keep their involvement and locations a closely guarded secret. It is worth mentioning at this point that operators do cooperate under some form of (non-public) (I.T.U.?) agreement, concerning transmission formats, in order to assist opposing monitoring agencies in the identification of all transmissions.

► LOCATING THE STATIONS - It is easy to take wild stabs in the dark and come up with all kinds of answers but a more methodical approach is required to piece together the jigsaw. The main components are:-

- 1) Extensive monitoring which eventually leads to a clear understanding of a stations 'habits'.
- 2) Categorisation in order of format to tie stations together into 'families' or conclude that they are 'individual' in nature.
- 3) The construction of schedules, carrying out traffic analysis and noting mistakes all add to the understanding.

Once these elements are in place you have a much better chance of discovering the agency or location of a particular station. Using this information coupled with good direction finding, locating stations becomes much easier. Members can then locate and visit individual sites to confirm transmissions from the perimeter fence!

<u>FAMILY</u>	<u>MEMBERS</u>	<u>ORIGIN</u>	<u>TRANSMITTER LOCATIONS</u>
I Ia	M14/E6/G6/S6/V6; S25	RUSSIA	Numerous within Russian territory, Murom, Moscow, Smolensk, Ust 'Kamenogorsk'. Outside Russia; Bauta, Cuba. Other sites in Nicaragua, Cam Ran Bay Vietnam.
I Ib	M12/E7/G7/S7/V7; XP	RUSSIA	
I Ic	M18; M18; M42; MX S13; S14; S28; X6	RUSSIA	
Ia	E17y		Bauta, Cuba.
	E17z		Breakaway station of Family Ia - initial DF's indicate Ukraine area.
II	M68/E5/E21/G5/V5; M72/E14/V14	U.S.A	Numerous worldwide, include Warrenton Virginia USA. Guam. Langen, nr. Frankfurt Airport Germany. Wherever U.S. military are present.
III	M3/E11/G11/S11/S12; G10/S26	?POLISH	Central/Southern Poland, but maybe a network of transmitters. Still under investigation.
IV	M2; E12/G12/V12/V18	?HUNGARY/ AUSTRIA	Sadly, this was never confirmed during the many years of operation. Some suggest Hungary, however Austria was a stronger possibility.
V	E13/G13	GERMANY	This was a relatively short lived 'special operation' aimed at destabilising the Eastern part of Germany. Joint CIA/BND station.
VI	M15; G14; G15; E16/G16	GERMANY	Originally from FRG only. (M15-Husum North Germany.) Further sites will follow in a feature on German sites.
VII?	M17/E1; S1; S2; X1	?BULGARIA	DF indicates.
VIII	M27/S8; ? M40/?M53	?SERBIA	Report in Oct - 96 indicated that Serbia would abolish State Security Service. *Other sites under investigation - incl Drevce, Zeleneč & Hradecín - all Czech. Possibly Liblice, Nr. Prague. Vratislavice.
IX IXa	M7/M10/G18?/S10	CZECH REP. ?SLOVAKIA	
IXb	M6/S5		
IXc	M39/S18; S17/S19 M10E/S10E		
X	E3	BRITISH	Ayos Nikolaos, Cyprus. Abis, Egypt. (formerly Creslow and Gawcott UK).
	E3A	BRITISH	Guam (U.S. facility).
XI	M4/E23/G2	POLAND	Now Nr. Łódź, south west Poland.
XIII	M29/G4	HUNGARY	Nr. Budapest

XIV	M1/M45/M50/S21;S27	RUSSIA	Kaliningrad, operates under the cover of Russian Naval Rec. Its activities are however strictly European.
XV	M13/E18/G22/S4	CENTRAL/SE EUROPE	
XVI	M48/V1; M63? V17?	RUMANIA	Various within Rumania incl. Branești ?
XVII	M41; M49/G8; G1?; G3	GERMANY	Stations of the former D.D.R. Further information to follow.
XVIII	M8/V2	CUBA	Widely reported as Cuban - signals would also appear to be transmitted via Russia.
XIX	M16; M33; M51	FRANCE	Sainte Assise, North of Paris.

INDIVIDUAL STATIONS -NOT ASSOCIATED WITH KNOWN FAMILIES

<u>DESIGNATION</u>	<u>ORIGIN</u>	<u>TRANSMITTER LOCATIONS</u>
M 5	?BRITISH	
M 19	?BRITISH	
M 22 (4XZ)	ISRAEL	Reported to be Israeli Navy? (Haifa)
M 23 (Ends, 5f <AR)	ITALY (elsewhere!)	Syracuse, Sicily. + Others.
M 25 (KKN,KRH,KWS)	U.S.A.	Worldwide, (KRH50 from Barford St. John, Oxfordshire, UK.)
M 28 (HEP)	SWITZERLAND	Swiss Telecom refused to comment, reported to be Border Police?
M 43 (6XM8/C37A)	GERMANY/ ISRAEL	Link - C37A Tel Aviv, 6XM8 near Monschau, Hoefen Gemany.
M 52 (2f or 6f <u>AR</u> (colon))	NORWAY (elsewhere!)	Trondheim, Norway.
M 67 (Ends 0000)	TURKEY	Turkish - site not known.
M 73 (Starts 3 Long Tones)	CAUCASUS	
M 74 (3f 4f 4f 4f 4f)	CAUCASUS	
M 76 (4char bogus c/s, pseudo 2 way)	SOUTH EUROPEAN	
E 10	ISRAEL (elsewhere!)	Nr. Tel Aviv
E 15	EYGP	Nr. Alexandria
E 24	BRITISH	
S28 BUZZER 4625 kHz	RUSSIA	Tver region
V 13 NEW STAR RADIO	TAIWAN	Taipei
V 15 RADIO PYONGYANG N. KOREA		Pyongyang

V7 - THE SPANISH MAN (Family Ib)
by Andy - Merseyside

► INTRODUCTION - Prompted by the excellent article entitled "The Friday Night Fraulein - A Look at G7" by P.S. from Saffron Walden in ENIGMA 16 I thought I would write an addendum to the article about the habits of V7 - The Spanish Man. The G7 article's "Family Relationships" section states that V7's activities are restricted to "null messages" on "Fridays", but as I will demonstrate here, a closer look at the station has proved very different.

Although I've only been monitoring V7's activities for around one year I can cast some light on this family group.

► FORMAT - In terms of transmission format, V7 does follow the same message and null-message format of it's sister G7, aside from the omission of the procedural words. The voice used is male and Spanish is the language used.

The numbers and pronunciation in use are as follows:

<u>NUMBER</u>	<u>SPANISH</u>	<u>PRONOUNCED</u>
ONE	UNO	oon-oh
TWO	DOS	doss
THREE	TRES	traize
FOUR	QUATTRO	kwaattro
FIVE	CINCO	tchink-oh
SIX	SEIS	saize
SEVEN	SIETE	see-ay-tay
EIGHT	OCHO	otch-oh
NINE	NUEVE	noo-ey-vey
ZERO	ZERO	sse-ro

The voice used is very thin sounding and can sometimes be mistaken for a female.

► SCHEDULE - The schedule we will concentrate on (other do operate) can be heard Tuesdays and Thursdays of each week at 06.00 UTC with repeats at 06.10 for a null message and at 06.20 and 06.40 for messages with traffic (longer messages would delay these start times by 5 minute intervals). Frequency selection is the reverse of that described for G7 in that the transmission frequencies of the repeats move progressively higher, usually by a whole MHz or more (this is due to propagation conditions at this time of day). During the period that I have monitored V7 the lowest frequency selected was 9052 kHz and the highest 14487 kHz (also regularly used by M16 station E3). Virtually all the frequencies that are used by V7 fall in the fixed services bands (standard Russian practice).

V7 follows the same "frequency ID" pattern of its sister G7 in that all three figure schedule numbers are made up of the 100 kHz placed figures of the appropriate frequencies. See example below. It is also worth noting that the last two digits of the frequency are virtually always the same for the repeats.

Example. Taken from the March 1999 transmission.

06.00	11 <u>6</u> 02 kHz	Call up - 6	Last two digits	<u>02</u>
06.20	12 <u>2</u> 02 kHz	2	of frequency	<u>02</u>
06.40	13 <u>9</u> 02 kHz	9		<u>02</u>

Serial Number (SN) = 629

This system without doubt assists the recipient in locating the 2nd and 3rd frequency for the repeats without prior knowledge of the new frequency selection.

► TRAFFIC ANALYSIS - During a 10 month period of monitoring there have been 18 different messages sent, most of which are repeated on the next day of the schedule and some are repeated a second time twice. Only once during the 10 month period was a message not repeated on the next scheduled day. For the same period the group counts of the messages have ranged from 27 to 106 five figure groups. The normal average message group count is around 50.

► ANOMALIES & OBSERVATIONS

▷ 21 July 98 (Tue) - 1st repeat sent on 12161 kHz instead of 12061 kHz as per the frequency ID/Schedule Number. Correct frequency (12061) used for rest of month. (Wrongly set 100 kHz frequency dial).

▷ 06 Aug 98 (Thu) - While waiting for the 2nd repeat on 13366 kHz at 06.40, a family member station M12 started a null message transmission on the frequency at 06.30. If M12 had sent message traffic it would have clashed with V7's repeat.

▷ 15 SEP 98 (Tue) - Occasional transmitter problems and significant drops in signal strength.

▷ 24 DEC 98 (Thu) - Very poor modulation noted and the transmitter sounded very rough.

▷ 05 JAN 99 (Tue) - Neither the message or its 2 repeats provided a full copy of the message here - ongoing transmitter problems?

▷ 07 JAN 99 (Thu) - (Former engineer sent to Siberia) huge improvement in signal strength - transmitter repair programme?

▷ 14 JAN 99 (Thu) - Transmitter on frequency (9072 kHz) but there was no modulation for the whole transmission. Left frequency (as if sending a null message) and appeared on 2nd frequency (10472 kHz) - still no modulation and the transmitter went off as if a null message had been sent.

▷ 19 JAN 99 (Tue) - Longest GC (106) noted in 10 months - longest in previous 9 months was 77.

▷ 21 JAN 99 (Thu) - Massive improvement of signal noted. Repairs carried out?

▷ 26 JAN 99 (Tue) - Different voice than normal - sounded much younger and possibly live?

▷ 02 FEB 99 (Tue) - Voice has returned to normal - New tape from HQ? All transmitter and modulation problems seem to have been resolved for now.

▷ 04 MAR 99 (Thu) - 06.20 started on 12202 kHz with schedule 629 at 06.22 I found a parallel transmission on 11291 kHz in the Aeronautical Service frequency allocation and not in the Fixed Service allocation as is usual for V7. Parallel never noted before. (Probably a transmitter feed error. May imply operation from a Russian Airforce site). The third sending on 13902 kHz had no known parallel?

▷ 01 APR 99 (Thu) - First group of message 11111 (stutter group), GC 136 the highest for over a year (previous high 106).

▷ 06 MAY 1999 (THUR) - GC 149, which took over 25 minutes to send. A new all time high.

ODDS & ENDS

The bits that don't fit into other sections.

1) MORSE TAPES! - We are working on a project to produce a pack of Morse tuition tape for readers who would be interested in getting involved in some Morse monitoring - these will be basic Letters, Numbers & Mixed Letters & Numbers suitable for beginners. At present we do not know what the level of interest would be - please write into us during the month of August (with an SAE/IRC) if interested - we will then write back with further details in September. We hope to keep the cost of the tapes at a reasonable level. (Thanks to 'Celt' for your help with this project).

2) SUBSCRIPTIONS - If your subscription is due you will find a form enclosed with this Issue. There will be a small increase (the first ever) to cover increased costs from January 2000, details will be given in the next issue. This does not affect the subscription renewals enclosed.

THE V2/M8 "ATTENCION" STATIONS (FAMILY XVIII)

by John Maky (U.S.A.)

► **INTRODUCTION** Broadcast by Cuban Intelligence (DGI), the V2/M8 "Atencion" stations have been monitored as far back as forty years ago. Today, they are very active and can be found on a multitude of frequencies around the clock. There has only been one major format change (V2a/M8a) in its history and the original version (V2) is still heard several times a week. The transmitter site is believed to be located at Bauta, Cuba.

See later *

► **V2a FORMAT AND ANALYSIS** V2a first appeared on January 1, 1996. It is transmitted in AM mode, rarely LSB, and starts approximately on the hour. The transmissions last about 45 minutes. Generally speaking, each broadcast is repeated the following hour on a different frequency. A synthesized female voice is used, with all text in five-figure groups. Three groups will be given during the Atencion call-up. These represent the header for each of the 150 group messages to follow. The last digit in these headers are normally a 1,2,3 or occasionally 9. The use of a 4,5, 6 or 8 is extremely rare. M8a headers also follow this example. It has been suggested that this digit indicates how many times that particular message has been sent. This does not appear to be true. This explanation does not account for the regular use of 9, or the fact that 7 has not been heard. No pattern develops to substantiate this one way or the other. My feeling is that this last digit indicates message priority which may change from one day to the next. The broadcast will end with two or three "final." How many there are seems to depend simply on when the operator shuts off the tape. Here is an example of the V2a format.

"Atencion 12341 23452 34563" repeated for three minutes"

"12341 12341...12341" followed by first 150 group text.

"23452 23452...23452" followed by second 150 group message text.

"34563 34563...34563" followed by third 150 group message text.

"Final...Final.....Final" (when 3 are sent, there is always a pause -
-between 2nd and 3rd).

► **V2 FORMAT AND ANALYSIS** With only minor variations in format, V2 has been around since the 1960s. It is currently heard about once a day compared to V2a which has an average of ten daily broadcasts. V2 uses a different female voice which is much lower in tone and sounds like a sedated older woman. This station changes schedules much more often than V2a and will often fluctuate between 2 or 3 frequencies. V2 uses AM mode and always has a distinctive hum on the carrier. Broadcasts start on the hour and seldom last more than 15 minutes. Messages generally contain only 30-50 five figure groups. It appears that the three digit number given during the call-up is the recipient. There is no obvious purpose to the second two digits; again possibly a priority indicator. Here are two examples of the current V2 format.

"Atencion 959 04" repeated for several minutes.

"04 26" repeated a few times, then into 26 group text.

"Final...Final"

or

"Atencion 238 01" repeated for several minutes
"01 49" repeated a few times, then into 49 group text.
"Final...Final" a brief pause, then...
"Atencion 238 01" repeated for several minutes
"01 49" repeated a few times, then into repeat of the original 49 group text
"Final...Final"

► M8a FORMAT AND ANALYSIS Currently, M8a averages around fifteen broadcasts a day. Like V2a, the last letter in the message header is usually an A(1), N(2) or D(3). These transmissions last approximately 36 minutes. A letter/number substitution system (cut-numbers) is used which consists of the following.

A=1 N=2 D=3 U=4 W=5 R=6 I=7 G=8 M=9 T=0

M8a format is essentially the same as V2a. Mode is CW, and the characters are sent about 12 wpm. Standard CW procedural prosigns are used. Here is an example.

DNWRA URIGD NTUIN call-up repeated for three minutes.
DNWRA (x5) BT BT BT followed by first 150 group message.
AR AR AR URIGD (x5) BT BT BT followed by second 150 group message.
AR AR AR NTUIN (x5) BT BT BT followed by third 150 group message.
AR AR AR SK SK SK

M8 broadcasts seem to have stopped when V2a/M8a appeared in 1996.

► FREQUENCIES Today, V2/M8 can be found anywhere between 3 and 14 MHz. As of this writing, the lowest frequency being used is 3245 and the highest 13455. There has been a recent move to shift 3-8 MHz broadcasts into the 9-13 MHz range. This is probably due to and is consistent with the improved Maximum Usable Frequency (MUF) conditions. There are unconfirmed reports from some years back of operations above 30 MHz. This occurred during the last major sunspot cycle, so may be a place to look with the up and coming one.

V2a will remain on set schedule for months, then abruptly change. No pattern develops from these changes. Often, the move places them on an Amateur band or broadcast station frequency rendering the transmission useless. It is as if they never bothered to check if the frequency is used. For example, V2a appeared on 7755 kHz (this broadcast station is in the fixed service allocation) at 03.00 UTC in mid-1998 right on top of Lord's Ranch/KJES. It was ironic to hear the repetitious religious chanting mixing with a communist numbers broadcast. KJES eventually ceased programming during that time slot.

M8a will generally employ the frequencies used by V2a, plus a few of its own. Accordingly, when V2a changes frequencies M8a will follow. M8a will not appear on frequencies used by V2.

► **ANOMALIES** Ineptitude is the rule for Atencion broadcasts. Although it has improved in recent months, carriers are plagued with noise. Sometimes M8a tapes are played on V2a schedules and vice versa. Radio Havana has been noted mixing with numbers broadcasts. Carriers often come up for a scheduled broadcast, but no audio ever appears. Audio quality is regularly terrible with the numbers sounding distorted or completely unreadable. False starts are common. Tapes frequently skip or break. There are instances where one of the transmitters has (maybe accidentally) been placed into LSB mode. A few days usually go by before it is noticed and suddenly returns to AM. Also, the sound of a telephone being placed back into the cradle is often heard when broadcasts conclude. Recent examples (all taken from FRI 14.5.99) include the 03.00 transmission on 11566 - the carrier started for the V2a transmission, but M8a tape was broadcast (in AM mode) instead. At 03.06, operator noticed the error and placed the V2a tape on the air, but neglected to cut out M8 tape which played through the remainder of the transmission. The 04.00 transmission on 4479 of V2a started without the benefit of a call-up. Several minutes into the broadcast the operator re-wound the tape and the transmission resumed with the correct Atencion call-up. Meanwhile on 7734 also at 04.00 the regular V2a was expected, a carrier was present, but no audio appeared.

For a period of a week in July 1996, the word "null" was substituted for "cero" in the text of all V2a messages. It remained cero in the message headers. This has not happened since. Additionally, V2a has been noted using two parallel frequencies. It is unclear if this is done deliberately or due to a mixing error. This has occurred on consecutive weekly broadcasts.

Instances where identical V2 message texts have repeated up to six times during one broadcast have been recorded.

* **Ed Note:** Some additional comments from our own monitoring in Europe.

V2 FORMAT AND ANALYSIS - Latter two digits of 5F call - Extensive monitoring in Europe over several years indicates that the 5F headers usually end in 1, 2 or 3, rarely 4, very rarely 5, (almost never over 5 and never 9). This last figure represents the number of times a message has been sent (excluding scheduled repeat sequence). i.e. 1 is first sending, 2 = 2nd sending etc. Nearly always messages are sent 3 times (excluding scheduled repeats) and cannot indicate priority as they are always ascending 1-2-3 and can be followed through in this way. The first 2 figures of the header are non-random also and bear complex relationships to other messages being sent over the same period e.g. 70--- may be found to have 69--- and 71--- etc operating over same time period. As far as V2 format is concerned the 2F call up group appears to have the same purpose as the last figure of 5F headers. Again this group is nearly always 01, 02 or 03.

ANOMALIES - In Europe errors have been noted, but considering the very high activity these are infrequent. Many transmissions, particularly Morse are very strong in Europe - even on the lower frequencies - which tends to indicate a European origin. Transmitter quality is usually good.

FREQUENCIES - In Europe no XVIII activity has ever been noted in broadcast/amateur allocations.

VARIANT - An interesting variant (M86) operated for some time before the use of M8a in which the GC was given - always 150 (sent as AWT).

M76 - The most Complex Format of them All!

by M.G.

This station, which only came to our notice last December, is certainly one of the most interesting to monitor. Although it uses a relatively consistent format, it is full of peculiarities which making logging no brief one-line entry affair. It uses fast auto Morse, but hand-keyed once noted.

SCHEDULE - At present (Summer) it is not audible in Britain due to propagational factors, however, it must be audible somewhere, yet due to its unfamiliarity, no logs have been received. The only known schedule transmits DAILY at 0450 & 1750 in winter, adjusting for Summer Time on 28th March: 0350 & 1650 (start times can vary by up to 2min) on 3280 or 3819kHz (depends on season - changes to 3280 on 1st March). Unlike any other station, its seasonal frequency change is opposite to what one would expect - its winter frequency is the higher of the two. This contributes to the summer inaudibility here. Since 1st March it has used long zeroes throughout, whereas before this date it sent long zeroes only in the calls - presumably to distinguish them from letter T.

FORMAT - a) **CALL**: M76 is a dedicated user of bogus callsigns, changed daily, in a completely random fashion. It pretends to be a two-way link, giving its own callsign, and calling another. All callsigns consist of 4 characters (28 letters - A-Z + accented "a" & "u", and the numbers 1-0) in any combination. Due to their random nature letters predominate by around 3:1, making all-letter callsigns much more frequent than all-figure. 'Caller & called' callsigns bear no relation to one another, and it's hard to imagine what purpose they serve - if any. Unusually, this Call is sent only once, before the preamble begins (and once again in the repeat), so it serves no function as a tuning signal. Recipients must therefore use receivers with high frequency resolution, and be prepared to take down messages immediately.

b) **PREAMBLE** - After sending "QTC" (i.e. Message/s to follow) once, a 2fig Message Serial Number is sent, followed by a 2fig Group Count and = (break). Serial Numbers refer to the "A" message (see later) and run from 01-99, after which they revert back to 01, 02...etc. As both the 0450 & 1750 transmissions send the same messages, and as MSNs are always sent alternately (e.g. 94 96 98 01 03 05 etc), it is very likely that other transmissions are taking place that we haven't yet located - maybe on different frequencies. We are only receiving half the numbered messages that are being sent. Or perhaps, the sending of alternate MSNs is just a quirk of its operation, and no other such messages exist!

c) **"A" MESSAGE** - I've named this first message "A", as it is quite distinct in character from all subsequent ("B") messages. It is the message to which the MSN and GC in the preamble refer. Its group structure is non-random, and follows a set pattern:-

- 1st group - always (so far) 26310
- 2nd group - non-random 5f (often starts with 15)
- "Core groups" - the message proper - a variable number of random 5f (not paired) groups.
- last four groups - fffXX (usually - where fff can be any 3 figures) RRRRRR 20fXX (where f = 2, 6 or 7) NNNNN (occasionally omitted) =
- sometimes these last groups are replaced by:
 - WWWWW 7ffff (any 4 figs) - followed by a further short message of 4-6 random 5f groups then
 - fXXXX or fffEX (f = any figures) NNNNN = (note that all these groups are counted in the GC, and the use of letters N, R, W and X used as a filler)

GCs average around 25, but so far never less than 17. Further messages follow this one:-

d) **"B" MESSAGES** - 3f (MSN) f or 2f (GC) (single figure GCs - sent with or without preceding zero)

- =
- 1st group always (so far) 40545
- 2nd-6th groups - non-random 5f (see sample logs below)
- "core groups" - random 5f (sometimes none)
- last group - usually either 7XXXX, 37XXX, 437XX or f437X
- or ff437 (where f = any figure) - When last group is 7XXXX the previous group always ends in 3. Usually at least 8 groups are sent, but when fewer than 7, the 6th, 5th & 4th groups may be omitted - a 4group message omits all of these.

Up to 12 "B" messages have been known to be sent in a single transmission, so whole transmission may last over an hour. (Average around 7). They all follow on after one another, and many are "carried over", their message period lasting from one day to several months. (Most last a few days) New messages are constantly being added and old ones dropped, some of which occasionally reappear soon after dropping - dropped in error maybe?

"B" MSNs run from 001 to possibly 999 and appear in two groupings, the first rising from 001 (01 or 1) and listed consecutively; the other rising from a higher point, but listed in reverse consecutive order. GCs average around 25, but have been as low as 4.

e) REPEAT SEQUENCE - whole transmission repeated after a pause of a minute or so.

f) ENDING - none.

SAMPLE LOGS - 5-11th February 1999 (NNNNNs omitted here)

5.2 UNCI DE RCSS QTC 79 31 = 26310 (27x5f) RRRRR 207XX
= 030 8 = 028 8 = 330 20 = 314 21 (-1)

6.2 SODF DE AFIa QTC 81 20 = 26310 (15x5f) 4089X RRRRR 207XX
= 033 8 = 032 30 = 028 8 = 330 20 = 314 21 (+2 -1)

7.2 G777 DE BWJW QTC 83 34 = 26310 (20x5f) 606XX RRRRR 202XX
WWWWW 74351 77455 (5x5f) 4XXXX
= 033 8 = 032 30 = 028 8 = 330 20 = 314 21 (0)

8.2 P58G DE YJAR QTC 85 31 = 26310 (17x5f) 607XX RRRRR 202XX
WWWWW 75151 27395 (5x5f) 2158X
= 033 8 = 032 30 = 028 8 = 330 20 = 314 21 (0)

9.2 CDSO DE DILA QTC 87 22 = 26310 (17x5f) 089XX RRRRR 202XX
= 033 8 = 032 30 = 028 8 = 330 20 = 314 21 (0)

10.2 I3u3 DE TEXL QTC 89 20 = 26310 (14x5f) RRRRR 202XX WWWWW
73653 27358 (5x5f) 0158X
= 034 8 = 033 8 = 028 8 = 330 20 = 314 21 (+1 -1)

11.2 59RE DE 4ATB QTC 91 28 = 26310 (17x5f) 089XX RRRRR 207XX
WWWWW 73052 97335 (2x5f) 6507X
= 034 8 = 033 8 = 028 8 = 330 20 = 314 21 (0)

Often the 2nd group after the WWWWW group has 7 as its 2nd figure, as in all three examples above.

"B" messages covered 6.2 -10.2, in order of appearance, giving first six groups and last group:-

033/8 40545 79639 05935 82649 99398 39092 (1grp) 8437X
032/30 40545 79625 05935 82694 99399 39092 (23grps) 37XXX
028/8 40545 79585 05959 92493 99390 92397 (1grp) 7XXXX
330/20 40545 79639 30505 94113 19399 48092 (13grps) 7XXXX
314/21 40545 79339 44505 95545 69499 39938 (14grps) 37XXX
034/8 40545 79645 05941 82693 99399 ?2512 (1grp) 37XXX

The above is an example of a rather quiet period of operation, with no change in "B" messages over three days, and only small changes over the whole period. (plus & minus figures indicate number of messages added or dropped - sometimes these figures reach 6 or 7). Last 3 figs often end in 437. Note the nonrandom nature of the first six groups in each message, in the way that they interrelate with equivalent group placings in different messages.

SOME FINAL THOUGHTS

As you can see, this is an extremely generous station as far as information is concerned, unlike most Numbers Stations which give away as little as possible. Unfortunately, despite this mass of data, we can make little sense of it all. Perhaps somebody out there can help us? This is probably the most active station as regards traffic 'turnover'. Those stations which hide their activity levels by regular fixed schedules & long fixed GCs (such as E3) probably don't carry as much genuine traffic as M76, so what agency can be behind it? DF fixes so far have been rather inconclusive, but a Southern European home is indicated.

Understandably, with such activity levels, mistakes have been made, but these are infrequent. Accidental dropping of "B" MSNs has already been mentioned. Another example was a "B" message (MSN 092) first given a GC of 51, when actually it was 32 - corrected in subsequent transmissions. A hand-keyed call which included a T, was corrected to a long zero - almost as if these call signs need to be accurately sent - but why? Less likely to be an error is the occasional missing out of an "A" MSN at the end of a cycle.

ENIGMA QUESTIONNAIRE - RESULTS

■ INTRODUCTION - First, thank you to all our readers who responded to the questionnaire. The last questionnaire was way back at issue number 9 with the results given in issue 10. Since that time, our readership has grown considerably and we thought it would be good to receive some feedback. The results are published below with both good and bad comments included. It is only from your responses that we can gauge future improvements and bring you the kind of publication you want.

■ RESPONSE RATE - 56% of all questionnaires were returned.

■ HOW DID YOU FIND OUT ABOUT ENIGMA - Magazine/Journal 68%, Radio/TV 10%, Friend /Colleague 9%, Via Internet 9%, Conet-CD 4%.

■ DO YOU MONITOR NUMBER STATIONS - Professionally 2%, Regularly 33%, Occasionally 59%, Never 6%.

■ IF YOU ARE A SW LISTENER, DO YOU SPECIALISE - Utilities 26%, Broadcast 19%, Amateur 13%, Number Stations 31%, Don't Specialise 8%, Pirates 2%, Military 1%.

■ IF NUMBER STATIONS, FOR HOW MANY YEARS HAVE YOU LISTENED - Average of all responses was 11 years.

■ OVER WHAT PERIOD HAVE YOU KEPT LOGS - Average of all responses was 5 years.

■ DO YOU HAVE A PARTICULAR INTEREST IN ESPIONAGE-RELATED ACTIVITIES AS OPPOSED TO RELATED RADIO COMMUNICATIONS - Yes 48%, No 41%, did not answer 11%.

■ WOULD YOU BE PREPARED TO MONITOR PARTICULAR STATIONS AND/OR PREPARE SCHEDULES - Yes 34%, No 54%, did not answer 9%.

■ DO YOU READ MORSE - Yes 54%, No 44%, did not answer 2%.

■ ARE YOU A RADIO AMATEUR - Yes 47%, No 51%, did not answer 2%.

■ ARE YOU ON THE INTERNET - Yes 44%, No 38%, Considering it 15%, did not answer 3%.

■ WHICH BEST DESCRIBES YOUR INTEREST IN ENIGMA -

Shortwave listener who sends in logs/news/comments	30%
Shortwave listener who does not send in logs/news/comments	41%
Non-listener with an interest in espionage/communications/etc.	11%
Employee of British special service	1%
Employee of Foreign special service	1%
Ex-employee of British special service	6%
Ex-employee of Foreign special service	4%
Did not answer	6%

■ DO YOU THINK ENIGMA IS GOOD VALUE FOR MONEY - Yes 98%, No 1%,
Reasonable 1%.

■ HOW DO YOU RATE THE FOLLOWING ASPECTS OF ENIGMA -

	<u>VG</u>	<u>G</u>	<u>F</u>	<u>P</u>	<u>VP</u>
STATION NEWS	53%	37%	8%		2%
LETTERS	33%	56%	9%	1%	1%
'BUZZ'	42%	43%	15%		
SIMON M.	43%	50%	11%		
BOOK REVIEW	38%	51%	7%		
LOOKING BACK	38%	43%	19%		
NEWSROUND UP	48%	40%	12%		
FEATURES	54%	34%	12%		

■ WHICH WORDS BEST DESCRIBE THE GENERAL STYLE OF THE NEWSLETTER - In order of responses given - greatest first. Interesting, detailed, serious, authoritative, accurate, friendly, entertaining, educational. One response ticked boring and one trivial with two selecting pointless!

We asked for other words - Eurocentric, unique, revealing, enigmatic, eccentric, fascinating, informative, confusing, complicated, adequate, superb, obsessive, and admirable were all suggested.

■ WOULD YOU LIKE TO SEE MORE TECHNICAL INFORMATION INCLUDED -
Answers appear under YOUR COMMENTS HEADING.

■ CAN YOU OFFER HELP IN ANY OF THE FOLLOWING AREAS - Monitoring 28%,
Research 15%, Sites 10%, Letter writing 6%, Collating information 10%, Travelling
abroad 6%, Not stated 25%.

■ DO YOU HAVE A PARTICULAR EXPERTISE IN - Cryptology and statistical analysis
12%, HF comms/propagation 28%, Military 18%, Cold war history/sites operations
20%, Not stated 22%.

■ YOUR COMMENTS - We have combined your technical comments into this section.
We received many comments and have summarised them into headings. To give you
some idea of the task involved we received comments that 'Letters to ENIGMA' was
too long while others said it should be increased, clearly we must aim for a balance!
We have included a fair mix and will endeavour to cover the suggestions made in
future issues. The ENIGMA Booklet should also help solve some questions raised.

WHAT YOU WOULD LIKE US TO COVER - Historical information, HF-DF equipment/help, espionage sets/antennas, crypto equipment, information on bugs phone taps and mail interception, details of stations outside Europe (e.g. China etc.), a list of active countries/operators, help with languages & numbers spoken, more details on 'rare' stations.

Details of new data modes, PC programmes, auto recording tips, reader's equipment and help in combating local interference (yes) were also mentioned.

COMMENTS ABOUT EXISTING SECTIONS/PAST ISSUES - A beginners section/article - 'subject is too complicated', 'Letters section' is too long/not long enough!, abbreviations not explained, layout confusing, more Morse coverage.

YOUR SUGGESTIONS FOR FUTURE LAYOUT - A4 format or stapled down the middle 'booklet style', more graphics, tables, photographs, make it available on disc.

GENERAL COMMENTS - Readers wrote to say how much they liked the Newsletter and were prepared to put up with format/print style which was outweighed by the information, comments such as "good, keep it up", "a stimulating and enjoyable read", "balance is about right", "happy with layout" and "more of the same" appeared in many responses. Other comments suggested that ENIGMA was a mix of official reports and informal chat, that we should name our sources, and provide more evidence and less speculation. Someone said we were paranoid (who said that?)

■ EDITOR'S COMMENT - First, it was good to receive a 56% rate of return. This is high and therefore helps us to have a fair representation of your opinions and gives us a good profile of our membership. We have endeavoured to summarise all the comments we received and will do our best to cover the articles you have requested in future issues. (The long awaited Booklet should also help). We are conscious of the 'print quality' and have taken on-board the comments about a booklet format. We try to pack as much information as possible into every issue, perhaps at the cost of presentation!

We have noted the comments about the size of various sections. This is often limited by contributions - as an occasional publication we try to provide a fair balance. For example (as one respondent said) re- 'Buzz' not much happens to the stations so writing about them can be difficult, while 'Letters' scored the lowest in the Very Good %, at just 33% - room for improvement.

With regard to technical information many readers felt these were well covered elsewhere. ENIGMA is very much a 'niche' publication and operates with virtually no public information it is important to try and stay 'on subject'. We depend very much on contributions in the form of logs, news, reports and clippings. We are also keen to receive more Morse logs. Your contributions are much appreciated, but please let us also hear from you if you have not been in touch for a while (or never).

Thank You.

✠ LETTERS TO ENIGMA ✠

Welcome to another issue, and now straight into your letter. First, Paul (London), wrote to answer some questions raised in the last issue concerning the Kilowatt group the Wassenaar Arrangement and the Berne and Vienna groups. Kilowatt is involved in the exchange of data on international political violence and was formed in 1977. The information alliance between the services of some 15 countries has been kept a virtual secret since it started off: only in 1982 was its existence revealed when Iranian students brought out materials captured at the American embassy in Teheran in which Kilowatt was mentioned. Taking part in this network are the EC-countries and Canada, Sweden, Norway, Switzerland, the CIA and FBI, as well as Israeli Mossad and Shin Beth. Kilowatt is believed to be dominated by Israel because of her near-monopoly position in the information exchange on the activities of Arab groups and individuals in Europe and the Middle East. According to recent information from Swiss and Dutch sources the network is now functioning under another name.

Signatories of the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies served as a baseline for the determination of the cryptography export policies of some countries. By July 1996, the arrangement was acceded to by 31 countries. The arrangement controls the export of cryptography as dual-use goods, i.e., that has both military and civilian applications. However, Wassenaar also provides an exemption from export controls for mass-market software. However, software containing cryptography may be subject to controls as a dual-use item. The confusion brought about by such a contradiction was apparent in the responses of some countries regarding their presumed obligations under Wassenaar.

According to other reports International cooperation is of increasing importance to the intelligence community of any European country. Apart from the obvious bilateral contacts, security and intelligence services meet and exchange information in a number of ways. There are certain "regional" cooperation groups, in which the services of some countries meet to discuss specific subjects of common interest. Examples are the Berne and Vienna groups and the Trevi group, perhaps the most important platform for the exchange of intelligence in Western Europe.

He also mentions our feature on XPH Polytone transmissions in the last issue and informs us that around 1979/1981 a device fell into the hands of British Intelligence. It was a grey box with a red filter. It was claimed that this device was used to decode messages from a radio. It was also stated that nothing else existed like it. Chris (USA) also comments on Valeriano's article about XPH Polytones (last issue) - he starts "Very interesting results!" - using a tone to indicate "duplicate" makes sense. Forcing sequential tones to be different probably helps improve the tone detection and decoding. That way, it is known when one character ends and the next begins, without having to rely just on timing. The recording of XPH I have has some 'pulses' between each of the 'a' characters in the 'aaaaaaaaa' sequence just prior to the start of the message text. I wonder if these ten 'a' (305 Hz) tones sent just before the message are a sort of timing series, to get the decoder synchronised and ready to copy the message text? Likewise, the repeating "mn" series could serve to indicate that the synchronisation is about to begin".

A few quick greetings now. First to Gert (Holland) thank you for all the regular logs, Ray (East Yorkshire), 'B' Batley, (West Yorkshire), Simon (Shropshire), who informs us he will be visiting his "second home" in the Greek Islands - we look forward to your monitoring report. Greetings to our good friend Vassily (Moscow) who writes to say that he has now changed his job and it takes up much of his time, he adds that "it is necessary to work hard during the economic crisis". Nevertheless, he is staying in the radio hobby, particularly numbers listening.

On now to Daryl (British Columbia, Canada), who reports New Star Radio on 8300 kHz clear as a bell, and adds that there is "nothing but water between me and Asia". V2 Spanish female is also heard with with a strong signal but Russia is curiously absent. Also heard is E17y with a strong signal. He signs off by reminding us that CIA stands for Capitalism's Invisible Army!

Greetings now to 'Celt', he wrote to say that ENIGMA was without doubt, the most informative and highly accurate exchange of information on the subject available to the public. He is also keen to obtain or loan a copy of the book (A Matter of Trust: M15 1945-75) written by Nigel West - (Hodder and Stoughton). If you could lead to an outlet for the book or loan it please contact the ENIGMA office and we will forward your letter on. An interesting letter was received in response to our article "Attention 1-2-3!" (bimonthly - Shortwave Magazine) from a reader who requested that his name was not published. He wrote "During the 1960s and some of the 1970s I was on the committee of the BARTG (British Amateur Radio Teleprinter Group) and attended regular meetings at the RSGB's (Radio Society of Great Britain) headquarters in London where I met, among others, Eric Yeomanson (G3IIR) who told me that the 6MHz pirate group was constantly monitored as it was at that time being used as an underground radio network. One of the ring leaders was Rudy Deutschke who was subsequently deported from Britain. Various explanations were given in the press at the time, but the real reason lay behind his involvement in the radio network. It was inferred, but not confirmed, that a numbers station was involved."

Ed Note: Other members of BARTG included M15 employees and others from the Post Office 'Special Services' i.e. tapping techniques. Yeomanson was probably also from M15. It is almost certainly the case that the numbers station involved was G1-The Tyrone Music Station which operated during this period on 6425//6665 kHz. We would be very interested to hear from anyone with information about the Rudy Deutschke case, either archive material or recollections.

"On a totally different theme, my work has allowed me to meet many people who have been involved in many ways with the radio and electronics industries. One representative related the time he was at the radio research station at Winkfield (near Slough) when the Americans were running the Bell X series rocket planes, and were using them to gather Soviet radio information by fitting the aircraft with a radio frequency translator which received the signals and re-transmitted them, these were received and put onto tape at Winkfield. After each flight the tapes in sealed containers were collected by staff from the American Embassy and taken under escort back to the Embassy".

Ed Note: The site at Winkfield was the home of UK ARPANET (a CIA financed inter-university computer system. The forerunner of the Internet from which it was derived and - ironically Internet has backfired on them!) where the CIA used/uses UK Universities to gather intelligence. A "research station!"

Greetings to Andy (Merseyside) who is a regular e-mail contributor. He mentions the curious use of the call LOLO which is used by M4. He writes "a family member informed me that the term was used during his days in the Royal Army in Germany, which simply meant Hello".

Greetings to regular contributor, Alan (W.Midlands). Thank you for your logs. And Robin (Cheltenham) thank you for your recent letters and Ken (Reading) who has enrolled on a couple of Open University courses in Maths and German.

Some time ago we mentioned RIMNET (Radioactive Incident Monitoring NETWORK), whose roadside monitors are situated across the UK. They are manufactured by Siemens Environmental Systems Ltd and the Finnish Väissällä meteorological equipment company and update every 3 hours. (We spotted an amusing piece on Channel 5 Television's weather report - the reporter was standing next to a RIMNET station in the fog and described it as a 'ice-monitor' stating that these roadside monitors were collecting data which was coordinated in Birmingham - nice piece of misinformation for public consumption. We received an interesting letter about RIMNET recently. Our reader tells us, "I sat opposite a young lady on the train and she took out a sheaf of papers. As she held them up I saw the official coat of arms and the words 'Questions for the Prime Minister' She quickly placed that on the bottom of the pile and started to read another: 'Operation Best Endeavour' Briefing Pack. Because I was sitting opposite her I was unable to see the text, however as soon as we stopped I gave up my seat to a lady so I could look down on the document. It was generated by a division of the Department Environment, Transport and the Regions (DETR) and related to what would happen if there was a nuclear accident. RIMNET had a good mention about its capabilities and also the effects of the liberated radioactive material on the public at large. However, readers will be reassured to know that Iodate would not be given to the population because there would be no time to distribute it. (Potassium Iodate 150mg tabs are given to prevent the absorption into the thyroid, by exposed persons, of Iodine 131-radioiodine - as seen to have disastrous effects at Chernobyl and Belarus area)." We have since learned that "Operation Best Endeavour" was one one of a series of periodic communications exercises run by 'Radioactive Substance' (RAS) a division of (DETR). These exercises are run at eight weekly intervals and simulate the sort of e-mail traffic that might be expected as a result of an 'incident' involving the release of radiation from an 'establishment' (power station etc.) either inland or overseas. The DETR/RAS have a chain of clients who have agreed to take this electronic traffic and cascade it on to other users in their area. They in turn may cascade it onto further users in their area, i.e. Environmental Health Depts. in different Borough Councils. The RimNet control room is at the DETR HQ London (DETR-TCC....Technical Coordination Centre) with a duplicate at Poole, Dorset. RIMNET has directly replaced the Royal Observer Corps. with their network of nearly 2000 bunkers.

To Japan now, and greetings to Takashi - (thank you for all the logs news and recordings which are really appreciated) - who recently purchased a copy of the CD-ROM "The Numbers Racket" (see review -Simon Mason- this issue) and says there are a lot of impressive descriptions and recordings on it. Regular contributor Brian (Sussex) sent us some interesting recordings - and he comments that the interest in "Numbers" and associated stations seems to have reached an all time high. I am not so sure that the so-called Government Communications Bureau (i.e. MI6 cover) will be sharing your enthusiasm given the fact that we are a rather unwelcome bunch of 'information seekers'. Check out Brian's web page on Buzz stations - details at the head of the Buzz section.

John (USA) sent us a copy of the article which mentions ENIGMA in the Communications Confidential column of Popular Communications, that refers "Cuban Bored Man and Babbler traffic (V20/21). Traffic continues to be nonexistent. They both disappeared about the same time an article came out in the UK based numbers station club "ENIGMA" newsletter which described them" reports 'Albert (Al) Hussien' a reader in Florida. John also adds, "I have a suggestion. I would assume there are a good number of Amateur radio operators worldwide that subscribe to ENIGMA. I would guess that a significant percentage of them, and maybe others, utilize HF beam or other directional antennas. Would ENIGMA endorse a weekend where people could log the direction they are receiving number broadcasts from? With enough support, maybe some transmitter sites could be approximately identified by triangulation." Ed note: We would be happy to receive feedback on this subject, however Beams are not reliable enough for DF purpose.

More quick thanks, first Richard (Bucks), thank you for the regular logs and comments, Rob (Essex) who sent us the results of his monitoring while on holiday in Greece - great results, (more on holiday listening in the next issue) and Jonathan (Zimbabwe) good to hear from you. Thanks as always to Vladimir and to Guy and his 'team' of Morse monitors for all your valued contributions..

Our regular contributor in Germany, Andreas comments on the last issue, re - 'The Curious Case of the Swiss Secret Service The BBC and SRI'. "In the good old GDR there was always a recording of everything that was said on the radio - just in case someone said something they should not have done. But the technical quality was really bad." He informs us that the programme we were seeking was relayed on Radioropa 261 kHz LW, but they have advised that they only keep the archive tapes for 4 weeks, so it seems this recording may now be lost forever.

"With regards to SOUD part 2 on 1990-1998. AfNS was the organisation just after MfS. It was closed with the unification or before this. The MfS files have been taken over by another authority, called BStU, which was formed for this purpose". Before we close may we thank readers who regularly contribute by e-mail including, Jean-Paul, Darren, Valeriano, Simon, Hans-Friedrich, Geoff, Andy, Steve, Axel, Grey and Bob. Sorry if we missed anyone out. 'D' all information received with thanks. Thanks to Bob for the review of the ENIGMA Booklet on 'Spooks' News.

Looking Back With 'D' returns next issue with the story of Frank Clifton Bossard.

SIMON MASON WRITES ...

<<http://www.btinternet.com/~simon.mason>>

All Times are UTC.

Hello again, and welcome to another column in the ENIGMA newsletter.

GERMANY CALLING! - Firstly, the holy grail of Number Station monitoring - contacting a person who actually used the broadcasts to decode messages. One such person contacted me after reading about his story on my website. I've decided to protect his anonymity by using false names, but the story is quite fascinating. I am currently trying to tease more of the story out, but unfortunately it may never see the light of day.

"Periodically I check various search engines to see if anyone has added new material to the Net that deals with my "illustrious" background. I enjoyed reading your excerpts about Klaus Schmidt. The girlfriend mentioned in it was my mother - and contrary to a lot of things Klaus published, my mother and I had a much larger part in the entire defection. For example quite frequently I would check the shortwave transmissions. Its funny how you have all sorts of details listed that I had forgotten - it's been 20 years and I was just 17 years of age back then. As I recall, the East German and West German espionage stations were almost next to one another on the shortwave (or so it seemed). The only way I could tell them apart was by the pronunciation of the number-5". I then replied and told him that I knew about the differences in the pronunciation of the two versions of the number 5. One is "Funner" and the other "Funf". Here is his reply:

"You know about the "Funennef" ! ! ! ! That's so great!

Its the one way I could tell the stations apart. You know, as I said, I wasn't into the radio aspects of it too much so the frequency means more to you than to me. However - this is kind of cute....as you had mentioned in the description on your home page, the transmissions were often pretty bad depending on a lot of factors. I do remember one winter night very clearly though. The reason is that my mother had to work until 23.00 and I was in "charge" of getting the messages. So I tuned in, all nervous not wanting to miss the number of columns we were supposed to get. Turns out that maybe because it was a crystal clear winter night with snow on the ground and no clouds at all, I had the best reception in the world - almost 100% static free. So when I finished I called by mother at work and told her 'you know my friend XYZ, he wants to sell me a West German record for 250 marks. Its really crystal clear and excellent quality'. That was supposed to tell her we had received 250 groups of numbers and everything came out great. So there is a little anecdote for you: -

Did you know there is a website out there that has pictures of Stasi uniforms and insignia? I couldn't believe it. Must be an American. Living over here I can see how people get fascinated with this stuff."

I then offered to send him a tape with recording of German stations to see if he could recognise the actual one, but he probably only has hazy memories of the era and probably couldn't identify anything.

"The offer of the tape is very kind - but like I said, I have a feeling you get a bigger

INCORRECT *

kick out of the whole numbers thing than we did. I did listen to the sound clips on your site and did not see the West German Lady. Of course you have to remember this all happened in 1979. Who knows what has changed since then. I'm actually contemplating writing the story of our escape and posting it on the web - just for fun. The problem is that my own site is used for business and it would look sort of peculiar to potential customers to see this crazy stuff. So for now I'm just happy chatting with folks like yourself. Sorry that I'm not the best source about the radio stations - but I was "thrilled" when I saw that you knew about the way the number five was pronounced by the East Germans. It really was my only way to tell that I was listening to the wrong station. Before I forgot, did I mention that my mother purchased the SW receiver in an Intershop in East Berlin. An Intershop was a store where one could buy Western goods for Western currency. The problem is that she had to register that radio in some way - I think they noted down her ID information. Now you can imagine that this is not the thing a person wants to do when that person plans to use the radio for espionage. Mother was pretty upset by the German officialdom. Luckily they did not catch on in time. Back in 1991 a German TV station ran a documentary about this entire story and I found out that 20 minutes after we left our apartment to get on the train to defect, the Stasi showed up to arrest us. If you're interested, my home town has a website <www.oberhof.de> and if you click on the coat of arms it shows you some pictures - including the very train station we went to catch the 'final train'. It's a pretty little town in the mountains." Hopefully more of the story will come out, especially from the mother.

* **Ed Note:** With regard to which station was monitored in East Germany there are several unanswered questions. The use of columns and a 250 group message would imply fixed group counts - no other German language station other than G2 (Swedish Rhapsody) which sent 100+100+50=250 ever sent such long messages. Papa November(G15) the DFC stations(G14) and the 2 Letter Stations(G16) (all West German) never sent such high group counts, these also along with G2 used the word 'funef'. A reader in Germany wrote to us about the publication of the autobiography of Gabriele Gast. She worked for the MfS (HVA) inside the BND, she was one of the highest ranking sources the MfS ever had. In her book, there is a passage about number stations. At first she only had contact with other MfS personnel, but as she became more important this changed with the use of shortwave communications. She was given a list of several West German receivers that were capable of tuning to the East German number stations. Gast was a student of political sciences at this time which gave her good excuse to own a SW set. The set was not modified but was capable of covering the 75 and 90m bands. She was shown the radio and given a demonstration, they tuned to the HVA frequency, and she heard the interval signal. They had to wait to the next hour when the transmission started. At this time she heard a voice she described as a metal-sounding female. And of course she heard the 5F numbers. The technicians said that she had to tune to the frequency very precisely - if she did not do so, she could perhaps listen to the stations of 'other' intelligence services. They tried it and really only a few kHz away another numbers station was sending. This was at the end of the 1960s and the story is confirmed by ENIGMA reader Christian (Germany), who informs us that in the early 1970s in 3.5 MHz

on 3824
kHz

range often there where several stations closely spaced, especially on weekends.

Gabriele Gast: "Kundschafterin des Friedens: 17 Jahre Topspionin der DDR beim BND" Frankfurt/Main, Publisher: Eichborn Verlag ISBN: 3-82180522-6.

FEEDBACK In Issue 16 (page 41) I wrote about the origin of numbers broadcasts. The article concerned details of transmissions from Eastern Germany during the 1980s and was submitted by a US Radio Amateur KC7VDG. ENIGMA requested feedback to this piece and received the following from a reader in the former East Germany. "Several things can be said about this. It was never officially admitted, that the Soviet forces had atomic weapons in the GDR, although rumours persisted (the media sometimes confused rockets which were capable of carrying nuclear weapons - which were present in the GDR). The GDR Army never had atomic weapons, this I know for certain. So if this story is true, he must have been a Soviet soldier in those days. Next point is - although certain people in the US might not believe that East Germans used to live in houses and not in caves - there were methods other than unstable shortwave links in use to communicate the state of weapons systems between sites and controllers. I don't think that in an area as vital as this, where one wrong message could have been disastrous such systems would have been used. But there is a possibility that these were just stories told to the operators by their commanders and they were really sending spy messages to Western countries. For me, typical conservative number stations are spy communication stations, and I do not doubt this, nor would any other serious ENIGMA member. The only piece giving this information a bit of authenticity is the faulty tape player - there was perhaps no funds to get a new one...For me, if the person can name the place where his brother-in-law was stationed then, and if this is also a place which fits into other information from other sources, I will be ready to believe this story. But I will not believe it until then. Add it to the other myths on number stations." (ENIGMA agrees entirely).

CD-ROM REVIEWED Next, a review of the CD-ROM, "The Numbers Racket" by Chris Smolinski. You navigate through the CD as web pages with your browser and you view through the pages as you would on the Internet. After a short introduction, the basics of Number Stations are discussed. The include a brief introduction, why anyone would want to use this method of communication, an excellent overview of one time pads and other means of encryption, suggested times and frequency ranges, a list of stations along with their corresponding ENIGMA designation and station families. There then follows a list of the majority of past and present stations, however, since none of these has an ENIGMA designation, it is somewhat difficult to cross reference each station with the old sometimes erroneous names, such as "Bulgarian Betty". To be fair, you can access each station by the ENIGMA code on a different page. Each station is dealt with in detail and in the majority of cases an audio clip is included. I recognised quite a few of my own recordings, including a few taken with an open mike in my kitchen, complete with sound effects!

Taking a look at the station then, starting with Cherry Ripe, (E4). A list of operating

frequencies is shown along with a recent schedule and description of the station format. A sound 'clip' is included although quite who would want to listen to the full 45 minutes is another question! Some of the stations are covered in greater detail such as the Counting Stations (E5/G5), which describes the alleged connection with the Warrenton Training Centre. A clip of the unique transmission of 24 DEC 1997 of the "Buzzer" (S28) on 4625 kHz is included, as well as a very nice recording of the "Oblique" (E11) sending a 141 group message. In fact the best feature of the CD is the diversity of recordings. Finally, a bibliography, tribute to the late Havana Moon, numbers station web sites, a language identifier and various other items complete the CD. The CD ROM is still available from Chris Smolinski in limited quantities and is well worth purchasing for the recordings alone. Contact: Chris Smolinski, 4708, Trail Court, Westminster, MD21158, U.S.A. or <<http://www.blackcatsystems.com/numbers/cdrom.html>>

AGE OLD QUESTIONS! Rimantas (Lithuania) wrote to me to answer one of those age old questions of why no one has ever come forward out of the woodwork and admitted working at a Numbers Station transmitter site: "Sometimes we ask ourselves why nobody from the "spy numbers" transmission professionals tells us some details? Well, first of all, many of them even don't know that we ask such questions about these transmissions, which are for most of them nothing but a routine job. Secondly, all the insiders in any country, involved in intelligence communications, must be prosecuted by law for any dissemination of professional information, not to say about spying. Third, the tactical operative radio transmission systems are organised in such a way that nobody (except for the senior managers), knows the entire process, which is automated, and nobody can see the plain text except those who write and receive it; the radio communications staff could be a part of a different organisation (army, embassy, etc.) with no understanding or right to ask where they receive an audio signal from or whether it is an operative, camouflage, dummy or training message."

NUMBERS KOREAN STYLE I recently received an excellent set of recordings from Hideharu Torii from Japan. Visit his numbers station website on -
<<http://www.246.ne.jp/~abi/ransu/index.html>>

North Korean Numbers Stations

Here he describes the current scene on the Korean peninsula:

"Numbers Stations operated by North Korea have been monitored for decades. The activities of the stations have been reduced compared with those in early 1980s. The North Korean numbers stations in voice, which transmit five-digit figures, have currently three outlets. Of them, two use Radio Pyongyang, a Korean service beamed to South Korea and Korean residents in Japan. At 15.00 (midnight Korea and Japan time), Radio Pyongyang's service is separated into two programmes. One opens with Red Flag Song on 657, 855, 3250, 6400 kHz and other frequencies, while the other starts with March of the Guerrilla Army on 3320, 6250 kHz and other frequencies. The Red Flag Song outlet broadcasts coded messages almost every day. The March of the Guerrilla Army outlet transmits numbers and correspondence for specific agents or collaborators on fixed dates. For example, message for the No.101 are sent on every 10th and 12th of January, March, July and September, while messages for the No.3166 are transmitted on

every 13th and 14th of March, June, September and December. The messages sent on the second day are repeats of the first airing. After coded message broadcasts end, Radio Pyongyang returns to unified programmes. The last outlet is not affiliated with Radio Pyongyang's service and opens with the interval signal using an arranged version of the Song of General Kim Il Sung on 4770 and 5870 kHz. The station plays Cantata to Marshal Kim Il Sung after the interval signal. The station has been monitored irregularly at 04.00, 10.00, 12.00, 14.00 or 22.00. When there are no messages, the station broadcasts readings of essays or music played by Pochonbo Electronic Ensemble, Wangjaesan Light Music Troupe, Korean People's Army Concert Troupe, Mansudae Art Troupe and Probada Opera Troupe. At 12.30 on every 8th and 28th of March, June, September and December, the station plays music "requested by servicemen and workers". At 22.00 on December 31st, February 15th and April 14th and at 12.00 on January 1st, February 16th and April 15th, only music is played without announcements. February 16th is the birthday of North Korea's leader Kim Jong Il and April 15th is the birthday of the late North Korea President Kim Il Sung.

Format of North Korean Numbers Stations - After opening music, a female announcer calls out the number of agents for whom messages will be sent and the starting time of the messages. During this broadcast, first a message for the No.2883 will be sent, and then a message for the No.692 will start from 12.08, and message for the No.2185 will follow at 12.14. A preamble is repeated twice. There is no such preamble in the case of only one message and the female announcer begins with: "A message for the No.2833 will be sent, this is given three times followed the words Count 21. Count 21. Text. The announcer then goes into the text of the five-figure groups with a pause between the third and fourth digit, for example: 374 79, 686 53, 468 80, at the end of the message the announcer says "I'll repeat the message" and the ID No. and group count is given again per the preamble. The repeat is sent with no pause between the third and fourth digit and the transmission ends with the announcement "That's all".

South Korean Numbers Stations - Numbers Stations run by South Korea were first noted in the late 1970s. The purpose and the nature of the stations remain a mystery. The stations appear sporadically on the hour or the half hour between 14.00 and 17.00 on 4500, 4600, 5715 or 6215 kHz. The stations start with a South Korean popular song. Various songs have been used. The names of recipients of messages are referred to such as No.008, phoenix and mountains in the Korean Peninsula. Texts are either four figure or five figure groups. The stations occasionally end after playing the opening music. Format of South Korean Numbers Stations. The typical format of the station is as follows: "The No.3825, the No. 3825. Please receive a message. Count 64. Text." A female announcer then goes into the text with a pause between the third and fourth in the case of five digits and between the second and third in the case of four digits. The text is repeated again without pause between digits, saying, "I'll repeat the message again". The broadcast ends with such an announcement like this: "That's all. Thank you".

Until next time my best wishes to you all. Regards, *Simon Mason.*

THINGS THAT GO BUZZ IN THE NIGHT !

Welcome to another 'Buzz' column. Before we start, let us just mention that you can check out 'Buzz' (now updated) stations on the Internet (including some sound samples) at -

< <http://dSPACE.dial.pipex.com/brogers> > courtesy of Brian (Sussex).

Thank you for all your contributions - so let's get started with the usual collection of SW oddities.

◆ HAARP - The High Frequency Active Auroral Research Project, Gakona, Alaska, conducted several 'public' test transmissions in March. Details were posted on the Internet. The results seem less than conclusive from a listening prospective. The test on 6.99 and 3.39 MHz was conducted March 26 and 27. Those who tuned in the first day to copy the test signals and CW message encountered what sounded like either severe multi-pathing or deliberate interference. The problem turned out to be largely related to apparent technical problems with a little multi-pathing thrown in, according to HAARP Technical Manager Ed Kennedy, who commented "it now appears that while some transmitters were being keyed properly, others were not being keyed at all. The net effect was not only a change in transmitted power between on and off, but also a pattern change." Kennedy said the keying problem combined with auroral multi-path to produce CW that was intelligible to some listeners and with quite a bit of multi-path to others. The problems seemed to be most severe for stations in the Northeast. Some stations in the western US were able to copy the complete CW message. On the March 27 test, the same situation existed during the 6.99 MHz call-up only, Kennedy said, it was corrected immediately.

The announced plan had also called for some antenna-pattern "tapering" during the carrier signal measurement period on 6.99 MHz. It appears that might not have happened on the first day either. This also was fixed on day 2, Kennedy says. HAARP'S plan had called for directing the array's main lobe vertically, which meant that anyone outside Alaska heard the HAARP transmissions by virtue of one of the antenna pattern's sidelobes. Just which pattern or patterns were employed is not clear, and not all listeners noticed the tapering effects, although some reported dramatic differences in signal strength. Total power output was in the vicinity of 400 kW, about half-power for the present HAARP facility. According to reports the signal was heard in Sydney, Australia, with a weak signal on 3390 kHz. Reports from Arizona, Michigan, Connecticut, Florida, Missouri, Maryland, and elsewhere. The signal was not noted by ENIGMA from our own monitoring in the U.K., however ENIGMA reader Paul (London) had success on the Saturday.

HAARP Web site, <<http://w3.nrl.navy.mil/haarp.html>>

Readers may recall the case of Tom Spencer, European Parliamentary MEP, who resigned his position following an incident associated with some pornographic material he was carrying in his personal baggage, when stopped by British customs. An article in the Independent Newspaper (13/02/99) mentioned that Spencer had some interesting enemies including the makers of the Pentagon's spooky death ray HAARP. For almost a year, Tom Spencer has been calling for the representatives of the US government to come before his committee to explain the project. They have declined.

◆S30) THE PIP (formerly XT) -3756 kHz 14.00 to 05.30 & 5448 kHz 05.30 to 14.00. We have now confirmed that the transmitters are located near the town of Krasnodar (which is situated between the Ukraine and the Republic of Georgia) in Southern Russia. It is reported to be a Russian military HF channel marker. According to information received the station transmits a short "live" male voice message in SSB, usually consisting of short number groups. The purpose of such control transmissions is to check the readiness of the receiving network's operators. This is the reason why the message time and content is so variable. The Russian military communications people call such messages "a signal" or "rescript". The officer at the receiving facility writes the message into the shift journal, then immediately contacts the transmitter station, sending back the received "signal", or the corresponding answer, taken from a special table. The hub and network stations are connected by more than one heavy duty channel: dedicated telephone or cable line, satellite, microwave link, or fixed two-way HF channel. The SW circuits are, in the main, a reserve or backup link. Traffic was noted by Brian (Sussex) at 03.32 UTC and on the following night at 23.27 UTC on the 3757 kHz outlet. The second message consisted of six groups of 3 numbers repeated once. The numbers were read, for example, as "three hundred and forty one" rather than as single digits. John (Derby) e-mailed us with details of a message sent on April 17th at 22.48 UTC, and on May 5th at 22.36 the pipping stopped for three seconds and then resumed; at 22.38 it stopped again and a message was sent in Russian by a male announcer; only two groups of 3 figures were noted on this occasion, normal service resumed at 22.39. You have to be quick to catch these messages!

◆BLANK CARRIER A report from Brian, (Sussex) "This station was originally identified on 5305 kHz, transmitting a carrier for exactly 20 minutes every hour, on the hour, 24 hours a day.

Although called the blank carrier, a modulated signal is often sent which sounds like a low burbling hum. Examination of the signal shows that it consists of two distinct tones, peaking 250 Hz apart. This would put it into the same order as other FSK (Frequency Shift Keying), systems in using two independent tones to provide a Mark-Space signal for sending data over the radio. Various frequencies are in use, some transmitting for 20 minutes on the hour, others at 20 minutes past the hour, and one, on 4705.5 kHz which appears to operate almost continuously. Rimantas (Lithuania) noted in March, that there were three closely spaced signals operating on 5305.5, 5307.5 & 5308 kHz. Each operating independently, transmitting from 20.00 UTC for 20 minutes, 40 minutes & 60 minutes respectively. The signal strength of each signal also varied, the strongest being 5305.5 kHz, giving a hefty S5 in Lithuania. In April Rimantas further reported signals on 4049, 4301, 4705, & 6801 as well as 5305 kHz. (6801 is strong in Germany followed by 5305, then 4301, weaker is 4049, 4705 is either not always on air or is transmitted in another direction, or with lower power). In England, the two lower frequencies have not been heard, (jammers appear to frequent these channels), and the others are weak during daylight hours. In May at 20.00 UTC I was able to monitor 6801, 5305 & 4705.5 kHz. At 20.20 UTC only 4705.5 kHz continued to transmit, joined by 5307.5 kHz. At 20.40 UTC, only 4705.5 kHz remained, appearing to be continuously transmitting.

This pattern repeated over the next hour. At 22.48 UTC the Burbling modulation was cut and the following sent in ICW MORSE:- "REA4 REA4 (Followed by sets of 5 figure groups - using a short zero) REA4 REA4 K" This callsign indicates a Russian station, which would agree with the strength of signals monitored in Lithuania. Callsigns in the RE-series have in previous years been allocated to TASS, the Russian News Agency, although this means very little as callsigns can be randomly, (or deliberately), allocated out of course." Now some additional comments from ENIGMA. First, REA-4, this is a 'red-herring' REA-4 (thanks, Geoff) is a Russian meteorological station and uses 4706 kHz (along with others), the messages are sent at H+40; using 5F number groups based on the international standard. It is very likely that REA-4 is unrelated to the signals we are monitoring. So what purpose do these FSK signals have. We can certainly confirm that 5305.5 & 6801 kHz do operate in parallel. All comments, suggestions welcome!

◆XF) FADERS We are still making slow progress on these. Last time, we mentioned that the mode remains unknown. We have been informed that they are 'a narrow band spread spectrum system' which has been around since the late 1960s. We can confirm that these signals have been heard for several decades yet seem to be totally ignored outside the realms of ENIGMA. The key questions are - why are they "so" active? What are they sending in 7.5 second segments? Why are they only heard in Europe? They are described by one contact as "robust and reliable with a resistance to fading" - certainly the words robust and reliable have been used to describe Number Stations. We should consider that there is no Morse counterpart to E5 transmissions; could 'Faders' be some form of Numbers transmission? After all they have been traced to a British based US facility associated with intelligence matters? Lots of food for thought! If you are unfamiliar with 'Faders' check the following frequencies - (+/-3 kHz) 2470 3188 3215 3382 4020 4062 4458 4477 4496 4560 4843 5092 5105 5195 5311 5328 5398 5468 5787 6505 6769 6824 6848 6875 7384 7500 7658 7665 7813 7997 8185 9126 9138 9244 10139 10478 11100 11515 13431. They are very active and can be heard at anytime. Signals consist of a 'rough' broad sound with FM characteristics not unlike a passing motorbike - sent in exactly 7.5 second bursts. All feedback welcome.

◆XM) - BACKWARD MUSIC STATION Following our comments in the last issue these stations seem to have become rather shy! Perhaps the problems in the Balkans have resulted in the transmitters been commissioned for other uses. Within a week or so of the end of the war the BMS's returned. The only active frequency at first being 6695 from the U.S. Naval base at Palermo, Sicily. Other frequencies noted are 5280, 6421 and 10171 kHz.

The NATO Link-11 frequencies mentioned last time were quickly discontinued, however, with the situation in the region many new ones were introduced. At the time of writing the following frequencies are active (at various times) in Europe. (+/-3kHz) 3315, 3574, 4651, 5270, 5390, 5400, 5445, 5457, 6485, 6695 (weak), 6773, 7000, 7745, 7905, 8027, 8318, 8327, 10855, 12415 kHz.

◆XC) 'THE CRACKLE' - This has had a few brief periods of activity on its regular frequencies 5500-5505 under/over Shannon Volmet. Less reliable than it used to be.

◆ S28 (Formally XB) "THE BUZZER" Still alive and well on 4625 kHz 24 hours per day. At last another message! Proof that you should all be listening around the clock. After almost 18 months we have monitored four further messages, TUE 22 June at 19.35 one was sent. Further different messages were then sent at 19.46, 20.40 and 20.50 UTC. No warning tones were sent, the (all too) familiar 'Buzz' stopped and after a pause of 20 seconds the male announcer commenced the now (almost) familiar format. Further details/translations to follow.

OTHER SIGNALS Strange sounds on 8000 kHz. In recent months a rather dull carrier has landed on 8000 kHz and does not appear to do anything at all. Several perhaps unrelated, but interesting things have, however, been noted on the frequency. Joe (London) sent us a cassette tape of a strange announcement heard on a 20 second continuous loop on Thursday 25 February at 00.40 (still on at 01.40, when he switched off). It consisted of an American accented male voice reading a message! The loop had a 'glitch' which made a part unintelligible. "This is my transmitter antenna **** by entering - please enter your commands". Any ideas? A possibly unrelated transmission was noted on Sat 17 April at 10.00 again on 8000 kHz, this signal was under the carrier, but a loop containing a string of numbers and words in French could be heard.

◆ SITE VISITS & FEEDBACK

Barford St John. Teleprinter on 4710 kHz. This FSK signal can often be heard around the clock on 4710 kHz, when absent the carrier remains on. We can confirm that this is transmitted from 'RAF' Barford St John, Oxfordshire, a U.S. (USAF/CIA) controlled transmitter site. We would be interested to know what it is sending and to whom, (4710 during daylight would only provide limited range) any ideas? We have also noted a parallel to this on 8995 kHz - which was not coming from the Barford site at the time of our visit. Teleprinter enthusiasts - comments please.

Other signals noted from the site include 'wide-band' signals on 10320 and 13465 kHz, and USAF Global High Frequency System voice transmissions on 6714 // 11176 kHz sending the familiar coded messages. A unknown type of 'data burst' was also heard on the higher frequencies around 12 and 13MHz and may be the 'grasshopper' noted by Brian (Sussex) in previous issues. The erratic signal consists of a short (around 5 second) data burst.

During a visit to the vast BT transmitter site at Rugby it was found to be remarkably quiet (giving the impression that it was now more a reserve for traffic which has switched to satellite or other modes), idling RTTY transmitters were noted - 3615 - GKY1, 4211 - GKE2 and 4274 - GKB2 - all Portishead Radio callsigns. (GBR on 16 kHz & MSF on 60 kHz were no doubt still operating).

We also received some feedback about our 'sites list' last issue. We are informed that RAF Greatworth was closed in the late 1980s (and moved to Chelveston). A regular reader informs us that the SIGINT site, RAF Digby is fully operational. When a member of his family went to Waddington summer camp in 1998 the VHF (149.4, 149.275 MHz) R/T equipment used by Cadets was required to be checked at Digby

prior to use on site at Waddington! Geoff (Wales) wrote to say that "in the 1930s the Post Office had a monitoring station, where they used to check, inter alia, on hams straying over their bands, at Sandridge, a couple of miles NW of St.Albans. (O.S. map sheet 160). I drove up to the site about 12 years ago, still there, gates locked, but a big camera pointing towards you - it was a weekend. I don't know its current status, or course". (Sandridge has long been used by the Home Office for research and development by covert surveillance systems for MI5 and Special Branch). Another site of interest is the government radio station at Poundon (HMGCC) - National Control Centre. During a recent visit the site was found to be deserted, the main tower was stripped of all its equipment and all other antennas had been removed. The whole site is for sale (contact Smith Woolley - 01865-792624) - they claim a buyer has been found, but they will keep your details on file anyway! We understand that the operators moved by 'moonlight' in a fleet of Army trucks. They are reported to have relocated to Peel Circus, Hudswell, Wiltshire. Comments welcome. Like Poundon ENIGMA reader, Richard's visit to Creslow and Gawcott confirmed the sites to be out of commission, no aerials just double security fencing still in existence. 'Celt' wrote to say that it was nice to see a mention of (RN/NATO)-Crimond in the last issue, he worked there for several years installing and testing the high speed computers and LF/HF transmitter systems. Any idea why computers would be needed here?

C.S.O.S. Cheadle According to several reports, including John (Staffordshire) it appears that the Composite Signals Organisation Station at Cheadle closed in 1995. Although it was certainly operational in Summer 1996 during our visit. He asks that we mention that the site is in North Staffordshire, east of Stoke-on-Trent, close to the village of Cheadle. (ENIGMA has always known this), and not as some have suggested, even articles in SWM, that the site is located at Cheadle Hulme close to Manchester! He also sent us a copy of a pamphlet produced for an open day for the employees and former employees of the site in 1994, which shows Woodhead Hall. Another member informs us that all the antennas have been dismantled.

According to a report in 'UFO Magazine' three large masts near Dover, Kent (supposed to be disused early warning facilities?) have been the centre of considerable activity. Thick trunking cable and a large generator as been installed. A new sign marked 'MOD Property - No Entry - No Parking - No Photography' (no ENIGMA readers) is also present. Enquiries about this facility to the MOD's land office claimed they knew nothing about the re-activation, but suggested we speak to a USAF officer based at Mildenhall, Suffolk! (Copy of page available to interested members, who would like to investigate).

WE WELCOME FEEDBACK ON ANY SITES, NOT JUST THOSE MENTIONED IN THIS ISSUE. PLEASE KEEP THE INFORMATION FLOWING IN. THANK'S.

Acknowledgements: ARRL, Fabrizio - Italy. Ken - Doncaster, Brian - Sussex, John - Derby, Rimantas - Lithuania, Joe - London, Geoff - Wales.

shooting-down of an Iranian civilian aircraft by the US Navy on 3 July 1988 over the Straits of Hormuz during the Iran-Iraq War.

BRITAIN/IRAQ & RUSSIA - PAYMENT TO PRIMAKOV DENIED - British intelligence intercepted an \$800,000 bank transfer from Iraq to the Russian Prime Minister, Yevgeny Primakov, in November 1997, raising fears that the Russian leader could be in the pay of Saddam Hussein, the New Yorker magazine has reported. Seymour Hersh, the veteran investigative reporter, writes that the British intercept startled US intelligence officials, even though the top ranks of the CIA had long suspected that Mr Primakov has been receiving pay-offs from Iraq. According to the magazine, the intercept showed a payment of \$800,000 from Iraq's deputy prime minister, Tariq Aziz. It was a transfer that was electronically monitored, said one informed source. The magazine says it is not clear how the intelligence services were able to identify Mr Primakov as the beneficiary, because it is unlikely that he would receive Iraqi money in a named account, but two US officials stressed that the information was categorical. One of the officials described the intelligence as of the highest quality and said its credibility was bolstered by the fact that he and others in the intelligence community had heard allegations for years that Primakov had received numerous payments from Iraq. Mr Hersh's report poses new questions about Russia's role as Saddam's most reliable foreign protector and cast doubt on Mr Primakov's political future. Seen as a potential successor to President Boris Yeltsin, Mr Primakov first became friendly with Saddam while posted to the Middle East as a Pravda correspondent in the Sixties. The Russian Embassy in Washington denied all charges of corruption.

UKRAINE SECURITY SERVICE CONDUCTS COMMUNICATION EXERCISES - The department of special telecommunications systems and information protection of the Security Service of Ukraine (SBU) conducted a four-day command-staff exercise in Rivne Region. The system of field government communications is to provide the leadership of the state and the armed forces with communication outside of populated areas and in emergency situations. The defensive character of the Ukrainian military doctrine prompted reorganisation of the armed forces, which reflected on the state system of government communications. It has been decided that relevant units will be manned with specialists on a contract basis. That is why the number of conscripts was decreased by 1,000. Participants in the command-staff exercise demonstrated optimal operational and non-operational organisation and tested new and modernised equipment. Communications crews also practised repelling attacks from sabotage groups. Special devices designed to quickly destroy secret facilities facing seizure by the enemy were demonstrated.

BRITAIN - STEALTH DEVICE IN DEVELOPMENT - A struggling Midlands ceramics maker has developed a new 'stealth' product that is being tested by NATO and the US Defence Department. Flare Group a company that previously specialised in making clay linings for chimneys has been battered by the strong pound, last years Asian economic crisis and a lower demand for ceramic products in the US and Europe. However, the new ceramic, which absorbs radio waves aimed at ships or aircraft, could lift its fortunes. Other uses include shielding computers from hackers, or embassies from espionage through scanning by electronic surveillance. It has been developed secretly at the group's Hewitt Industries subsidiary at Fenton, Staffordshire.

AND FINALLY - USA & THE 'PEKING DUCK' - The scientific community at the supposedly top secret, high-security nuclear weapons research laboratory at Los Alamos is reeling after the dismissal of a quiet, friendly colleague who is suspected of being the Chinese spy at the centre of the biggest espionage scandal in years. Those who worked with Wen Ho Lee at the National Laboratory in New Mexico and were his neighbours in the suburban community said he was well liked. Searching for that human angle one newspaper quoted Mr Lees next door neighbour Don Marshall "I enjoyed his home cooked Peking duck, I struggled to believe he was guilty". So now you know - treat your friends to some home cooking but don't mention those strange numbers coming out of the radiol

ACKNOWLEDGEMENTS Intercepts via 'D', Paul- (London), Ken- (Doncaster), Declan, The Times, The Guardian, Duncan Campbell, The Observer, The Telegraph, Politech, Mail on Sunday, J.I.M.

PLEASE SEND US YOUR CUTTINGS AND NEWS REPORTS - THANK YOU.

The British "Mark 122" Spy set by H.F. Bellini-Tosi

The Mark 121 & 122 are far less well-known than the Mark 123, (a general purpose MI6 set), and are similar compact "suitcase" sets designed for use by Stay-Behind cells and 'sleepers'. They were designed and built in the late 1960s/early 70s by what was then the Diplomatic Wireless Service HQ at Hanslope Park. They consist of two identical flat, black-crackle painted aluminium boxes, (330x230x85mm) one of which contains a wide range of accessories and spares. The Mark 121 was made in five different models suffixed A-E each covering a different HF band between 2.9 & 20MHz.

This feature covers an upgraded variant of the Mark 122, as I have one which I acquired over 20 years ago, and which is still in mint condition. It covers 2.5-20Mc/s in 3 bands, (a wider range than usual) the receiver being variable tuned with a miniature two-speed dial, and the transmitter frequencies being crystal-controlled (as is usual in such sets). Although intended primarily for Morse use, (again, usual for these sets) reception of AM & SSB is also possible. An unusual transmitter feature is a socket for an external modulator (for high-level amplitude modulation - using anode and screen of PA). The purpose of this, and whether intended for voice or otherwise, is unknown. There is a built-in Morse key, and also a socket for a high-speed (burst) keyer. The transmitter power is somewhat higher than average at around 20-25W.

Circuitry used

The receiver is a basic superhet, and uses four well-known valves: ECH42x2 EAF42 0B2. An EAF42 (triode-hexode) serves as mixer/local oscillator; the EAF42 (diode-variable mu pentode) as IF amplifier and diode detector, an ECH42 as hexode AF amplifier and triode BFO. The BFO frequency is set by a small variable capacitor, operated as a panel control, which is also arranged to switch the BFO on or off. The local oscillator and BFO supply is set at 105V by a neon voltage stabiliser valve type 0B2, an unusual feature in 'spy' sets of this period, and not included in the original 122. A germanium diode serves as a 'crash' limiter, switched in with the BFO - very useful when using earpieces without AGC. As ICW Morse is the primary mode, no AGC is used, and no AF gain control needed, so the panel control actually varies the gain of the mixer & IF amplifier. Despite its simplicity, this receiver's sensitivity and selectivity are surprisingly good, and perfectly adequate for the purposes intended. The single AF stage provides more than enough volume for the pair of earpieces supplied.

The sender uses two valves: EL41 (power pentode) & 2E26 (beam tetrode) and a neon. The EL41 serves as a power MO (screengrid Vackar crystal oscillator) whose anode circuit can be tuned as a doubler/tripler. This feeds the 2E26 PA via a neon tuning arrangement (a cheap & reliable PA grid-tuning technique which was used in the famous B2 wartime spy set, and several others since). The grid is tuned to fundamental, or harmonic (depends on bandswitch) by adjusting for maximum brilliance of the neon which shines through a hole on the panel. Both MO & PA use grid-block keying, and much effort has been made to suppress key clicks and parasitics - an important consideration when operating as an 'illegal' - when any extraneous radiation could lead to capture. The PA anode circuit includes tuning control, band-switching and aerial matching - using a miniature 'roller coaster' variable coil.

These are adjusted for maximum RF power output, using a small panel meter linked to a diode detector and reponse-shaping circuit using a thermistor & VDR.

The choice of valve types is interesting, for unlike in the Mark 123, domestic, easily obtainable B8A-based valves are used as far as possible. The only specialised valves being the (B7G-based) 0B2, whose absence would only result in a little receiver drift, and the 2E26/CV3990, a miniature octalbased power valve with anode top cap - a high quality military VHF type, never used in domestic equipment, but demanded by the high transmitter power. Even without this valve the transmitter can still be used at around 2-4W low power, by simply bypassing the PA stage and using the EL41 alone, with the help of the soldering iron supplied!

The mains power supply is built-in and includes a hefty transformer which contributes to the vast bulk of the set's weight (total 5.6kg). Four selenium rectifiers are used in a bridge circuit, and with their electrolytics can supply over 300V to the PA, along with negative bias for grid-blocking & receiver gain

control, and 6.3V for the heaters. Mains voltage, AC or DC, can be adjusted from the front panel between 100 - 250V in 10V steps. A hand-generator unit was also supplied with the set, and there is also a socket for a battery operated external power pack.

An important feature of this set is the third position of the Transmit-Receive switch labelled "FORM". This specifically relates to the Stay-Behind/Sleeper role, where the set may lie buried for many years, before being dug up for use. In our next issue we'll discuss this role in more detail. Meanwhile the circuit of the power supply given below may provide some of you with the vital clue to this "FORM" position.

The second Black Box - contents:-

(All makers' names carefully removed!)

Set of spare valves, fuses (HT & mains lead) & bulbs

4-pin modulator plug with lead

Crystal holder/adaptor (for smaller 10XJ size crystals)

2-pin plug & lead for burst keyer

8-pin plug & mains lead with two special fuse-plugs for use with any type of European mains wall-socket

Special light-fitting adaptor for use with mains lead where wall-sockets are unavailable (for bayonet or screw use)

Mains tester: determines mains voltage (110/230) or whether AC or DC - uses two special neons in black plastic box

Indoor aerial spool: thin copper braid with miniature insulator & hook. All in palm-sized black plastic box - aerial pulls out like tape measure, and wound back with small handle. Wander plug attached.

Spare red & black wander plugs

Outdoor aerial wire (black PVC covered) wound on perspex sheet wrapped in greaseproof paper

Two porcelain egg insulators for above

Magnetic earpieces with lead and small plugs.

Spare grommets for earpieces.

Roll of solder & small soldering iron

Long-nosed pliers/cutters & screwdriver

A 'penknife' which includes a deadly-looking sharp spike!

Anonymous notebook of lined paper again in brown greaseproof

Two anonymous red unused pencils (to take down messages!)

All you'll ever need for covert communications!

WARNING - To avoid an RF burn hands must be kept away from the indoor aerial braid when tuning up sender. I speak from painful experience!

